

JUNE 1954

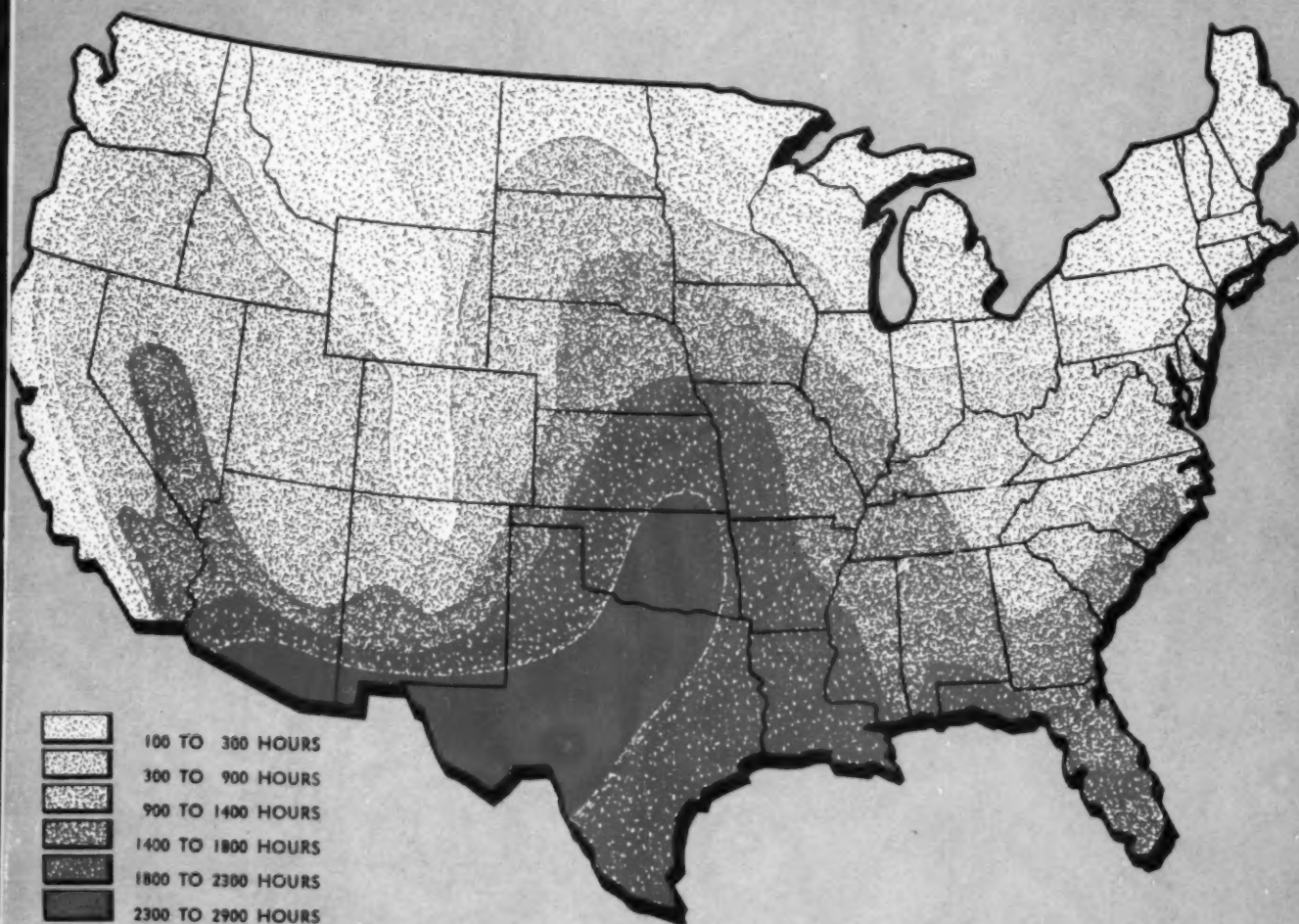
FRANCHISE  
CIRCULATION

# COMMERCIAL REFRIGERATION & AIR CONDITIONING

## THE MARKET IS EVERYWHERE...

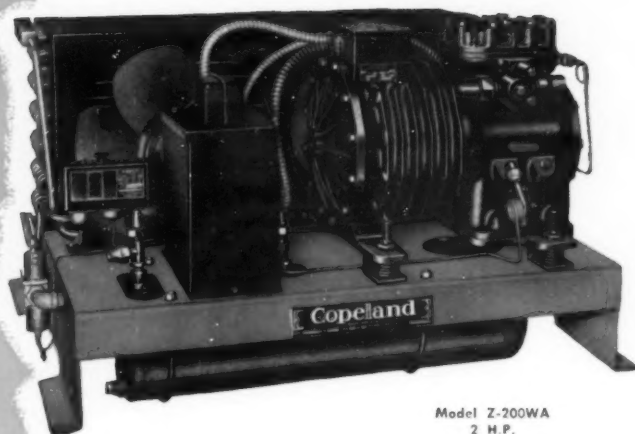
for air conditioning equipment, and here's the map to prove it. Figures are based on average number of hours outside temperature exceeds 80 F during the cooling season.

(See page 89 for a detailed map you can tear out and use in your sales kit.)



AIR CONDITIONING AND COMMERCIAL REFRIGERATION EQUIPMENT  
MERCHANDISING, SELLING, INSTALLATION AND MAINTENANCE OF

**need  
added  
sales  
advantages?**



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2 H.P.  
Combination  
Air and Water Cooled  
COPELAMETIC

**you get them in**

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WRITE FOR CATALOG C-53



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DEPENDABLE *Electric* REFRIGERATION

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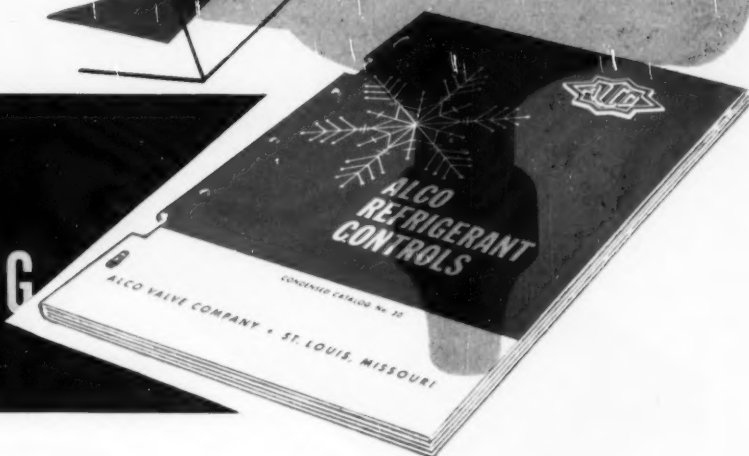
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**JUNE, 1954 • COMMERCIAL REFRIGERATION**

Established in 1944 as  
THE REFRIGERATION INDUSTRY, this  
magazine has no official affiliation with  
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# COMMERCIAL REFRIGERATION & AIR CONDITIONING

JUNE, 1954

VOLUME 11, NO. 6

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**Wagner**  
ELECTRIC MOTORS  
...the choice of leaders  
in industry



for single-phase  
motor  
applications  
Wagner Type **RK**  
is the  
**R**ight **K**ind  
of motor  
to use ...

Wagner capacitor-start induction motors are the *right kind* of motors to use for most single-phase applications. They have become first choice of many leading manufacturers of air conditioners, refrigerators, freezers, water pumps, and motor-driven tools, and are used in many other similar fractional or integral horsepower applications.

These motors offer low maintenance cost—only a minimum of servicing is required—and they give many years of reliable service with unusual freedom from vibration and noise.

Pictured above is the Wagner Type RK, resilient-mounted capacitor-start induction motor in the new 56 frame that is used for  $\frac{1}{3}$ ,  $\frac{1}{2}$  and  $\frac{3}{4}$  hp ratings. Smaller fractional ratings, and integral sizes from 1 through 5 hp, are also available.



Wagner rigid base Type RK motor, in the new 56 frame size. The formed steel base is securely welded to the rolled steel frame to produce a strong, rigid mount that will not get out of alignment.

Frames for these motors are made of thick rolled steel, with machined beads which accurately position the end plates. The frames have no openings, and are treated inside and out to prevent rusting.



These motors are equipped with the Wagner quick-break switch that disconnects the starting winding and capacitor from the line when the motor approaches operating speed. It operates over a million times without trouble.



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BRANCHES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES

ELECTRIC MOTORS  
TRANSFORMERS  
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AUTOMOTIVE  
BRAKE SYSTEMS—  
AIR AND HYDRAULIC

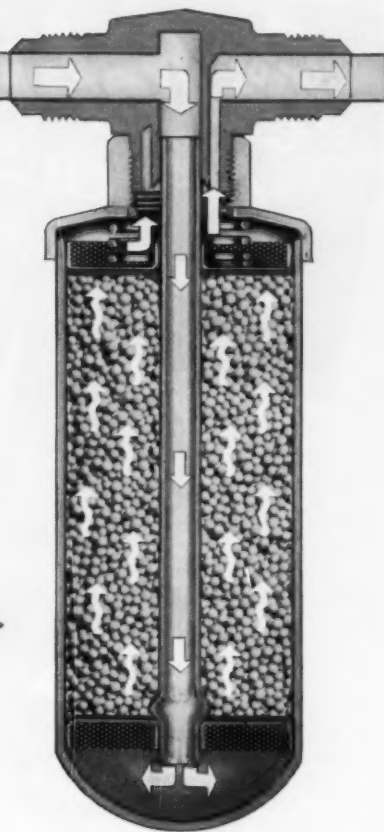
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JUNE, 1954 • COMMERCIAL REFRIGERATION



# stop acid here

ACID causes  
refrigeration system  
breakdown!



WITH DOUBLE-DUTY  
**AN•DRITE**

(ANSUL-TREATED 100% ACTIVATED ALUMINA)

**NEW T-FLO DESIGN**  
"SCREWS IN LIKE  
A LIGHT BULB!"

Activated alumina in pellet form makes Ansul's new Andrite the double-duty desiccant. Its thousands of fast drying surfaces dry deeper—pulling moisture content way down. But even more important, Andrite removes acid, cleans up the chemical condition that causes sludge and corrosion—the major cause of refrigeration system breakdowns.

Designed for the revolutionary Ansul T-Flo Drier, Andrite won't break down or dissolve to plug filters or damage compressors. And the drier is easy to install, too. Even replacement

of the drier cartridge saves time, because it screws in like a light bulb. And no tools are needed. For fewer call-backs, speedier servicing, change to Ansul. And be sure to give new equipment double protection in acid and moisture removal. Use Ansul T-Flo Driers with Andrite.

For more information or answers to your refrigeration problems write to: Ansul Chemical Company, Refrigeration Division, Dept. D-1, Marinette, Wisconsin.

DuPont "Freon," non-foaming oils, sulfur dioxide, methyl chloride



# ANSUL

# YOUR COPY IS READY-

listing capacities and specifications of "America's Most Modern Hermetic Condensing Units."

1/5 H.P. thru 5 H.P.

For service replacement and new equipment. Backed by the Lehigh 5-Year Warranty.



See this fine line at your nearest Lehigh BLU-COLD jobber or write for your copy.



## Lehigh BLU-COLD

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LEHIGH MANUFACTURING COMPANY  
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DIVISION OF LEHIGH FOUNDRIES, INC.

EXPORT DEPT.  
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Lehigh BLU-COLD OPEN TYPE UNITS • UNITS AND SYSTEMS FOR REFRIGERATED TRANSPORTATION • AUTOMATIC DEFROST SYSTEMS • BARE COMPRESSORS • A complete line for commercial and industrial use.

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## Chase Copper Refrigeration Tube

*is end-sealed for a clean, dry installation every time!*

The ends of Chase Soft Temper Copper Refrigeration Tube are crimp-sealed, *sure-sealed at the same diameter as the tube itself.* You can put the end through an opening no larger than the tube itself *without cutting.* Results: a faultlessly clean, dry oxide-free system when final connections are made!

### *And it's packed for easy handling!*

To save you time and trouble, Chase Copper Refrigeration Tube is packed one 50-ft. coil to a carton, and the cartons are clearly marked as to size. For full information on this soft, easy-to-work tube and on leak-proof, pressure-tight Chase Solder Joint Fittings—call your nearest Chase Warehouse and Sales Office or your Chase Wholesaler!



# Chase

**BRASS & COPPER CO.**

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and AIR CONDITIONING • JUNE, 1954

# Why You Can Have Confidence

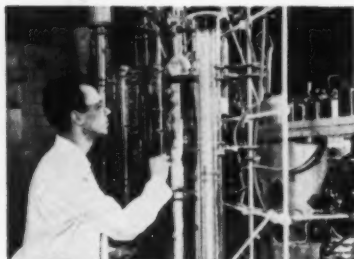


**genetron<sup>®</sup>**  
the great new name  
in basic  
refrigerants!

**genetron WHITE LABEL-12**  
DICHLORODIFLUOROMETHANE

**genetron ORANGE LABEL-11**  
TRICHLOROMONOFUOROMETHANE

In refrigerants, remember the name "Genetron" always identifies General Chemical's great new line of "super-dry" refrigerants. . . . And the label color code always means—  
WHITE LABEL=Dichlorodifluoromethane • ORANGE LABEL=Trichloromonofluoromethane



#### EXTENSIVE RESEARCH

"Genetron" refrigerants are products of General Chemical's extensive, continuous fluorine research program which has produced over 90 fluorine products for science and industry.



#### SOUND BASIC POSITION

General Chemical is a pioneer and pace-setting leader in the field of fluorine chemicals. Its position is basic and sound—including mines and reserves for necessary raw materials.





# when you see this label...

Any time you buy a product from a new source, you naturally want to know more about the manufacturer to make sure he and his products are dependable. That's only smart business... and it's certainly doubly important when the product is as basic and vital as the refrigerants you use.

What about General Chemical—the maker of “Genetron” refrigerants?

## Serving Behind the Scenes in Your Daily Life

Just this—the steel in your family automobile and refrigerator was quite likely processed with General Chemical's sulfuric acid... the water you drink may well have been purified with General's “Alum”, just as the clothes you wear and the food you eat probably have been produced with the help of one or a dozen other “G.C.” products.

## “Basic Chemicals for American Industry”

In other words, General Chemical is one of America's greatest producers of basic industrial and agricultural chemicals... and has been since 1899. It supplies every major industry that uses chemicals... from petroleum to pharmaceuticals... and has served a good part of its customers since they first opened their doors. Its slogan—*Basic Chemicals for American Industry*—typifies the scope and depth of its services.

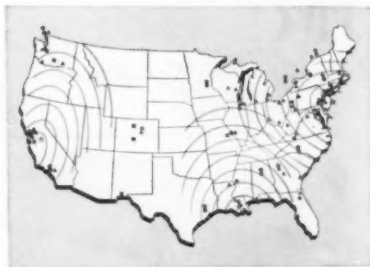
Products of

## GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION  
40 Rector Street, New York 6, N. Y.

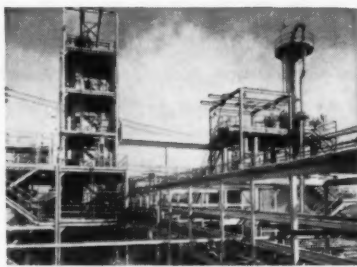
Offices: Albany • Atlanta • Baltimore • Birmingham • Boston • Bridgeport • Buffalo  
Charlotte • Chicago • Cleveland • Denver • Detroit • Greenville (Miss.) • Houston  
Jacksonville • Kalamazoo • Los Angeles • Minneapolis • New York • Philadelphia  
Pittsburgh • Providence • San Francisco • Seattle • St. Louis • Yakima (Wash.)  
In Wisconsin: General Chemical Company, Inc., Milwaukee

In Canada: The Nichols Chemical Company, Limited • Montreal • Toronto • Vancouver



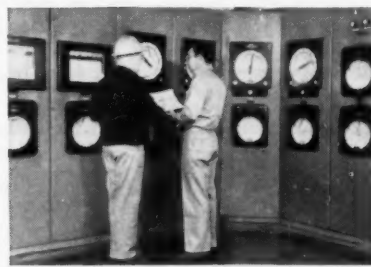
### NATION-WIDE SERVICE

General Chemical has almost 100 service and supply points throughout the United States and Canada. Production centers for fluorine chemicals are indicated by stars.



### SUPERIOR FACILITIES

General Chemical's “Genetron” plant at Baton Rouge, Louisiana, is one of the most modern fluorine refrigerant plants in America, employing special new manufacturing processes.



### EXACTING PROCESS CONTROL

The extremely low moisture content and high purity of “Genetron” refrigerants is a result of advanced manufacturing methods and unique process control techniques.

## Backs its Products All The Way

Now—with its large-scale production of “Genetron” organic fluorine refrigerants, General Chemical is serving the air conditioning and refrigeration industry in the same sound, steady manner that has earned it the confidence of thousands of customers in so many other fields.

So, whenever you see the “Genetron” label on a refrigerant cylinder or drum—remember that General Chemical is the company behind this great new name in basic refrigerants... and it backs them all the way!



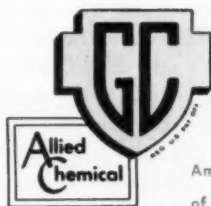
**Available in all standard container sizes:**

**Genetron WHITE LABEL-12** is shipped in 10-lb., 25-lb., 145-lb., and one-ton (2,000 lbs.) cylinders.

**Genetron ORANGE LABEL-11** is shipped in 100-lb., 200-lb. drums, and one-ton (2,000 lbs.) cylinders.

## FOR FURTHER INFORMATION...

Write or 'phone the nearest General Chemical office listed below. Ask for **FREE TECHNICAL SERVICE BULLETIN 11.12A** on “Genetron” Refrigerants.



America's Foremost Producer  
of Fluorine Chemicals

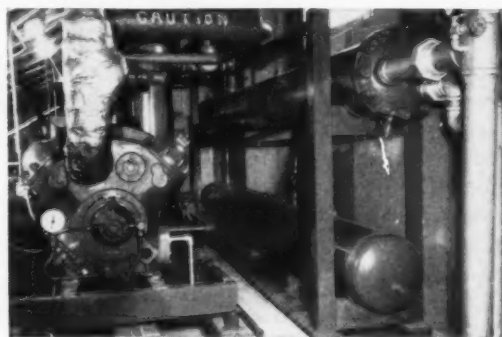
# Acme products air condition modern Florida church . . .



Park Temple Methodist Church at Ft. Lauderdale, Fla. has 60-ton, direct expansion air conditioning system that uses six Acme units. System keeps interior cool even at peak load intervals when church is crowded and outside temperatures soar. Equipment was specified by G. L. Cadenhead, M. E., installed by Hill York Broward Corp.: Chas Daniels, President; Thos. Baker, Engineer.



This Acme Cooling Tower of 60 tons capacity, completely hot dip galvanized after fabrication, will withstand even Florida's salty East Coast air with minimum maintenance. Acme's advanced-design all-metal cooling tower assures the owner of over 95% water savings during a long trouble-free life — there's no wood to rot in an Acme Tower.



Acme units installed under roof of church include Freon Condenser, two Heat Exchangers, Liquid Receiver, and Oil Separator. Acme's 34 years of experience in air conditioning and refrigeration show up in the efficiency of this installation and thousands more. Whatever your air conditioning or refrigeration problem, it will pay you to specify Acme and be sure the job is right.



## ACME INDUSTRIES, INC.

*Mfgs. of a complete line of Air Conditioning and Refrigeration Equipment*

JACKSON, MICHIGAN



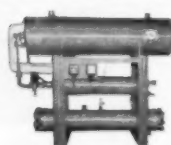
Evaporative Condensers  
Cooling Towers  
Floor-type Unit Coolers



Direct Expansion  
(Dry-Ex) and Flooded  
Liquid Chillers  
Heat Exchangers,  
Oil Separators



Shell and Tube, Shell  
and Coil Condensers  
Receivers, Pipe Coils



Packaged Liquid  
Chillers to 225 tons



Flow-Temp. Heat  
Pumps  
Flow-Cold Liquid  
Chillers

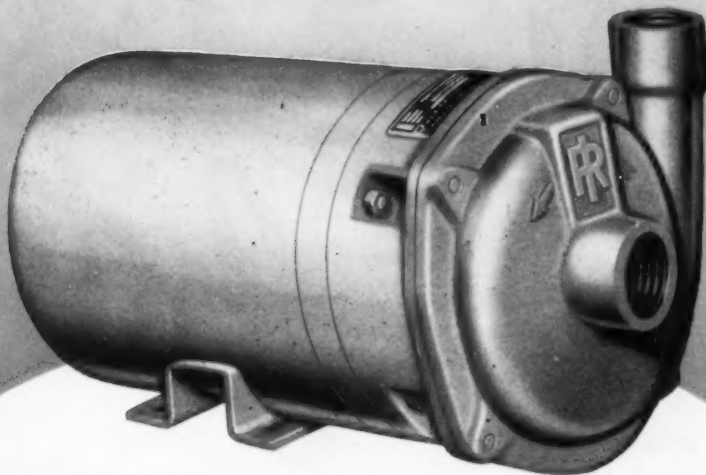


Remote Room  
Conditioner

**Continuously serving the air conditioning and refrigeration industry since 1919**

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## the **NEW** Ingersoll-Rand Motorpump



### **CONDITIONED FOR AIR CONDITIONING**

The most complete pump line  
for air conditioning service

#### The **MOTORPUMP** Line



1/3 to 1 hp



1/3 to 1 1/2 hp



1 to 7 1/2 hp



1 to 75 hp

This new Ingersoll-Rand Motorpump is truly conditioned for air conditioning work. Here is a pump with better hydraulic performance, a pump that is smaller and lighter in weight and just full of new features.

Built in 1/3, 1/2, 3/4 and 1 horsepower sizes this new Motorpump delivers the maximum with a minimum consumption of power. If you are currently in need of an air conditioning pump that will deliver up to 48 gallons per minute and reach heads up to 100 feet, then investigate Ingersoll-Rand's new Motorpump with:

- 1—Mechanical seal—rotating ceramic seal face against a stationary "Teepelite" seal face.
- 2—Positive impeller attachment (key and cap-screw)—not just an impeller screwed on the shaft.
- 3—A unique manner of rotating pump by hand to loosen seal and ring fits on spring start-up after winter shut-down.

Ingersoll-Rand now adds this unit to its famous Motorpump line that starts at 1/3 hp and goes to 75 hp. Deliveries range to 2800 gpm and heads to 650 feet.

Get in touch with your nearest I-R branch office today and build your business on satisfied customers—customers for whom you have installed an Ingersoll-Rand Motorpump.

## Ingersoll-Rand

Cameron Pump Division  
11 Broadway, New York 4, N. Y.

9-45

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**KRAMER**

**Kay-Tee**

*has*

**Guts!**

7 SIZES  
2,500 to 12,000 BTU



As the result of continual engineering research and mechanical development Kramer gives you—

**A BETTER COIL  
for  
LESS MONEY**

Take a good look at the Kay-Tee Unit and see the many outstanding features, including:

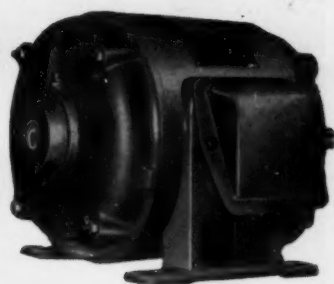
- New principle of refrigerant distribution.
- Continual tube coil construction (no return bends).
- Die-formed aluminum casing.
- Sweat-proof drain pan.
- Built-in heat exchanger.
- Guaranteed ratings based on accepted standards.
- External feeler bulb loop for easy installation.
- And many more features.

Write for Catalog R-230

**KRAMER TRENTON CO. • Trenton 5, N.J.**



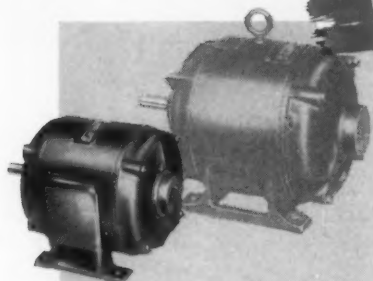
# NEW *Century* Performance-Rated<sup>®</sup> INTEGRAL H.P. MOTORS



Now available in  
1 ... 1½ ... 2 H.P. sizes—  
NEMA frames 182 and 184.

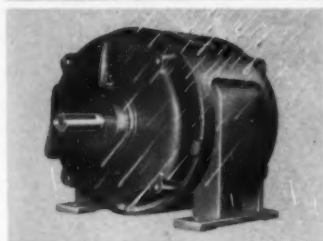
**Improved Motors**

**to match your needs**



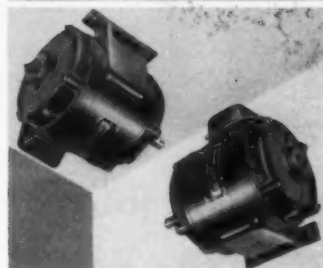
## **SMALLER — LIGHTER**

More uniform silicon-laminated steel; thinner, tougher "Mylar" slot insulation — just two of the many technical developments that help make these new Century Performance Rated Motors so much *smaller and lighter*.



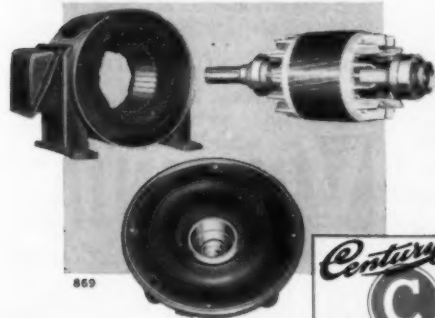
## **BETTER PROTECTION**

New concepts of internal motor ventilation permit end bracket and frame design that gives far better protection from falling liquids and solids... still maintain 40°C. temperature rise.



## **MORE FLEXIBLE MOUNTING**

You can even have cushion mounting with these new Century Integral H.P. Motors — your choice of sleeve or ball bearings. Ball bearing motors mount vertically, upside down, in any position. End brackets can be rotated for top protection in any position.



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Improved plastic impregnating varnish and plastic insulated magnet wire provide unusual resistance to abrasion, moisture and heat. These new materials possess far better dielectric qualities. Die cast aluminum rotors are individually, dynamically balanced to assure freedom from vibration.



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in Principal Cities

Specify CENTURY Performance Rated motors for your equipment. Call a Century District Sales Office or your nearest Century Authorized Distributor.

**CENTURY ELECTRIC COMPANY • 1806 Pine Street • St. Louis 3, Missouri**

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and AIR CONDITIONING • JUNE, 1954



## "This Permagem does a wonderful sealing job!"

Yes, Permagem really sticks. It's the sealing compound which maintenance and service engineers prefer for sealing cases, inspection plates, pipe openings. They know this is the ideal way to stop customer dissatisfaction before it can start, because moist air permitted to seep into a cabinet can cause insulation failure as well as a host of untold complications.

This serviceman is using brown

Permagem, which comes in 2½ lb. and 45 lb. slugs. This heavy-duty sealer will adhere to any dry surface and will never harden, staying plastic from 0° to 350°F. There is also gray-white Permagem, which comes in 80 ft. rolls of ⅜" cords, and 20 ft. rolls of ⅜" cords. It is odorless; it never hardens; it can be painted immediately. It is also ideal for sealing around wires, since it won't attack rubber insulation.

Your wholesaler stocks Permagem. Or write Refrigeration Division, VIRGINIA SMELTING CO., Dept. 64, West Norfolk, Va.



ESOTOOL • KINETIC CHEMICAL'S "FREON" REFRIGERANTS • V-METH-L • CAN-O-GAS • PERMAGUM PRESSTITE TAPE • SOLVEX PRODUCTS • SUNISO REFRIGERATION OILS

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JUNE, 1954 •

COMMERCIAL REFRIGERATION

**KENNARD**  
*Engineered*

# KT WATER SAVERS



## HOME or BUSINESS

KENNARD KT Water Savers (Induced Draft Cooling Towers) are ready for you NOW! Outstanding features found in KT Water Savers—Centrifugal type fan, redwood wetted deck, galvanized construction throughout, engineered for long life—OUTDOOR or INDOOR. Sized to meet popular demand, 3, 5, 8, 11 & 16 tons. Catalog KT-2.

Complete line of Cooling Towers—20 thru 75 tons. Cat. CT-1

**KENNARD CORPORATION**

1827 S. HANLEY RD. • ST. LOUIS 17, MO.

## 4 Reasons Why

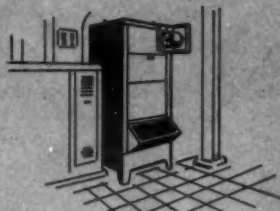
**KENNARD ENGINEERED  
KT WATER SAVERS  
ARE BETTER**



**1. QUIET**



**2. SAFE**



**3. COMPACT**



**4. RUGGED**

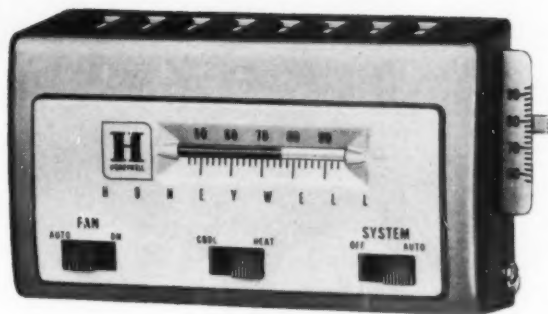
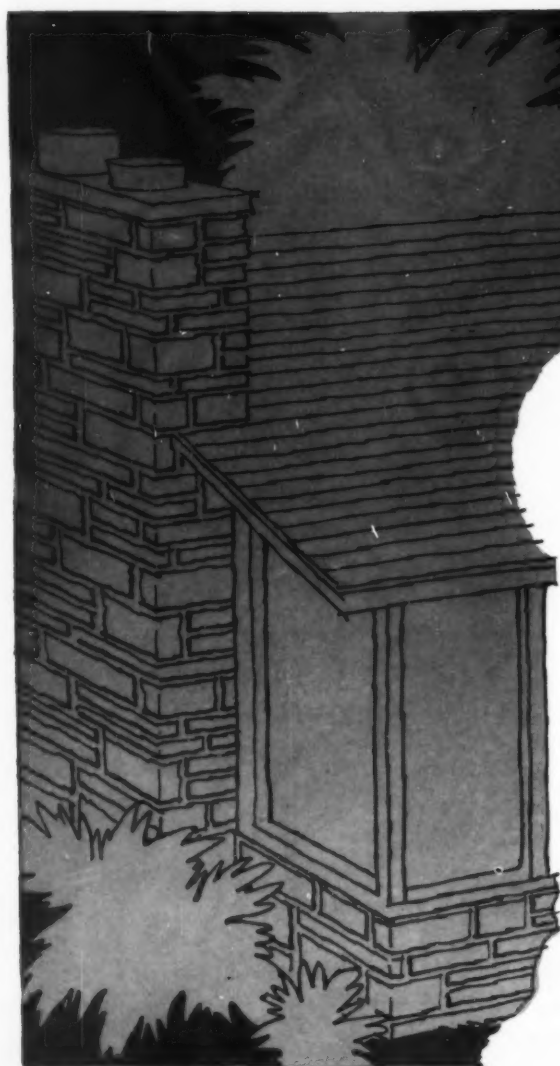
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and AIR CONDITIONING • JUNE, 1954

*Finest in the industry for today's homes—*

# New Honeywell year-round

*featuring* **Finger-Tip**



## **New T-830 Heating-Cooling Thermostat**

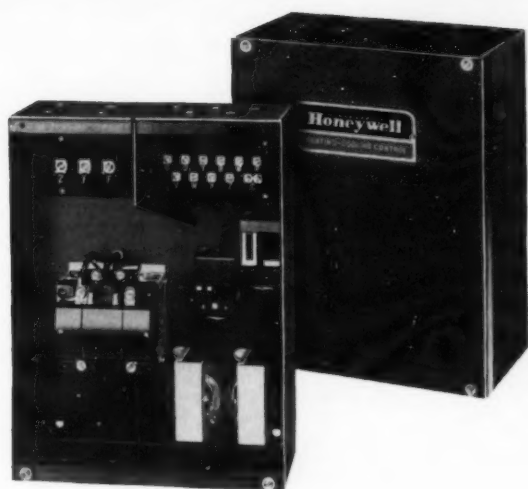
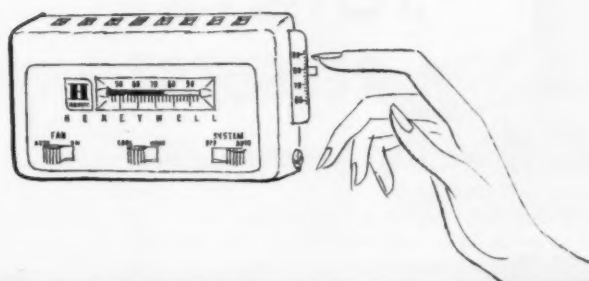
*Precision-made, trouble-free!* This handsome, high-performance heating-cooling thermostat gives complete year-round control. Has three manual switches. One for heating or cooling. One for automatic or constant fan. And one for automatic thermostat control or positive "off". Sturdy bi-metal element. Models of the new T-830 are available for either heating and single-stage cooling, or heating and two-stage cooling.

*Backed and serviced by Honeywell's  
best-by-far nationwide service organization.*



# air conditioning control system

## Control



### New W203 Control Panel

*Heavy-duty, pre-assembled unit!* This sturdily constructed heating-cooling control panel gives faultless year-round operation. Incorporates accessory terminals for damper motors, cooling tower pumps, solenoid valves, refrigeration pressure controls. Easy to install, easy to service.



### New M-828C Damper Motor

*More rugged, more powerful!* New, highly-durable, two-position, unidirectional motor, gives increased torque. Delivers more power, more positive control, in operating dampers for by-pass air conditioning system.

For complete details on the entire Honeywell line of refrigeration controls, call your local Honeywell office. Or write the home office—Honeywell, Dept. CR-6-121, Minneapolis 8, Minn.

112 OFFICES ACROSS THE NATION

MINNEAPOLIS  
**Honeywell**



*First in Controls*

# 7,980 PHOSON



## BRAZED JOINTS

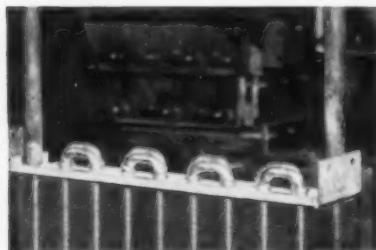
## 3 REJECTS!

*Reports* **BUSH** *on Refrigeration Coil!*

Bush Manufacturing Company, Hartford, Connecticut brazes 24 alloy rings on copper U bends in a continuous chain belt operation through fixed torches. The brazing process is automatic.

Testing each assembly under 300 pounds of air pressure, Bush reports only three rejects in 7,980 joints.

Bush also produces 8 times as many units the STRONG, LOW TEMPERATURE, PHOSON WAY, than with the old torch and rod method.



1. Refrigeration coil U bends shown with PHOSON brazing rings in position ready for production brazing.



2. View of straight line PHOSON brazing operation showing fixed torches and continuous belt action.



3. This is the finished PHOSON brazed refrigeration coil. No further machining or polishing needed . . . a clean, smooth job every time.

GET DEPENDABLE, LOW  
COST PHOSON IN  
STRAIGHT LENGTHS, COILS  
OR PREFORMED RINGS.

Ask for **NEW  
PHOSON BOOKLET**



**NEW  
PHOSON  
PERFORMANCE  
TELLS THE  
STORY!**

**CONTACT YOUR NEAREST UNITED WELDING SUPPLY DISTRIBUTOR**

Complete distributor list on request

See New Color,  
Sound Movie  
"WHEN METALS  
ARE BRAZED"  
Write United Wire  
for showing date  
in your city!



# UNITED WIRE

AND SUPPLY CORP.

Brazing Alloy Division

PROVIDENCE 7, R. I.  
OFFICES IN PRINCIPAL CITIES

Circle No. 18 on Reader Service Card

**It's the LAW!**

by Albert Woodruff Gray

**L**egal problems are an inherent part of operating any business enterprise. If you are beset by them, you'd better talk to your lawyer. This column, which will appear periodically in the issues of **COMMERCIAL REFRIGERATION AND AIR CONDITIONING**, in no way aspires to serve as legal counsel for our readers. It is prepared, however, by a man well versed in legal practices and opinions, and by presenting digests of actual court cases involving commercial refrigeration and air conditioning dealers and contractors we hope to enable our readers to sidestep some of the legal pitfalls into which they otherwise might unwittingly stumble.

—The Editors

## RETURN OF EQUIPMENT AND DAMAGES

**A** produce merchant in New York City purchased refrigerating equipment stipulating in his contract the temperature it should maintain. A substantial sum was paid on account and the installation made. The machine failed to maintain the required temperature and the purchaser suffered a consequent loss from spoiled produce.

The purchaser offered to return the equipment and then sued the seller for both the amount he had paid on account and the value of the produce that had been spoiled. The refrigeration contractor contended that while the purchaser might rescind his contract and return the equipment he could not do so and at the same time be entitled to damages other than a refund of the amount he had paid.

"The seller," said the court in its decision, "says that the purchaser was entitled to recover the value of the produce that it lost but that it could not have such recovery unless it kept the equipment and did not rescind the sale and sued the seller for whatever damages it could establish as the difference between the value of the equipment as delivered and as it should have been."

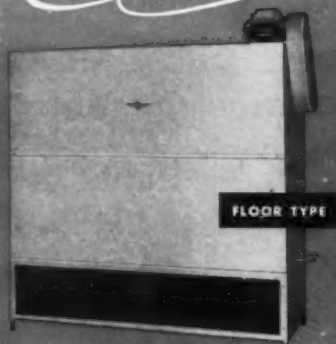
"What the purchaser is seeking here is to be placed in the position it was in before it made the purchase contract. It has called the deal off by rescinding

# LARKIN

# IS THE LINE

Of commercial and industrial refrigeration and air conditioning equipment

## HUMI-TEMP UNITS



FLOOR TYPE



TURRET AND  
HALF TURRET



LOW TEMPERATURE WITH  
HOT GAS DEFROSTING



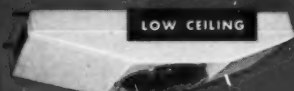
LOW BOY



STANDARD



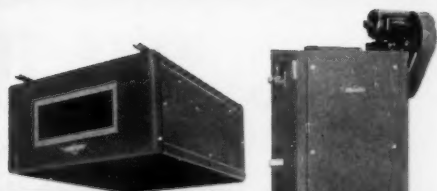
JUNIOR MODEL



LOW CEILING



BANTAM UNIT



COMFORT CONDITIONER

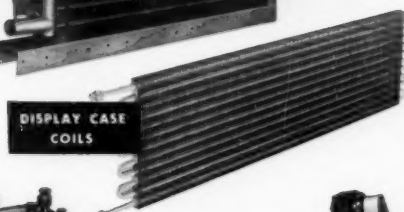
HYDRO-MISER  
COOLING TOWER



HEAT EXCHANGERS



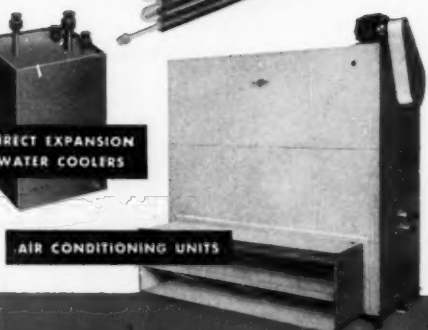
AIR CONDITIONING COILS



DISPLAY CASE  
COILS



DIRECT EXPANSION  
WATER COOLERS



AIR CONDITIONING UNITS



Manufacturers of the original Cross-Fin Coil • Humi-Temp Units • Evaporative Condensers • Cooling Towers • Air Conditioning Coils • Comfort Conditioners • Direct Expansion Water Coolers • Heat Exchangers • Disseminator Pans

## LARKIN COILS INC.

519 Memorial Drive, S.E. • Atlanta, Ga. • Main 3171



and AIR CONDITIONING • JUNE, 1954

*everything you want...*

## IN PORTABLE TEST PUMPS

*Here's what you get when you  
invest in Beach-Russ Portable  
Vacuum Pumps for refrigeration  
and air-conditioning test work...*

- High Performance Characteristics

- Completely Portable

- Automatic Lubrication

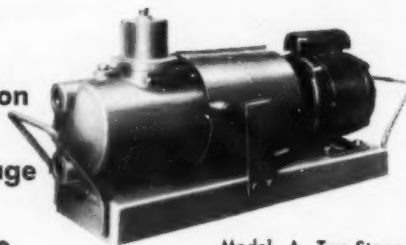
- Single- or Two-Stage

- Long Service Life

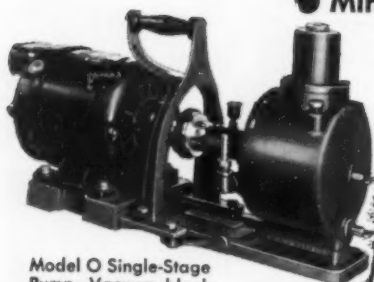
- Quiet Operation

- Valves Eliminated

- Minimum Attention



Model A Two-Stage  
Pump—Vacuum, blank  
flange: 1/10 mm, 2.5  
CFM, 1/3 HP, Weight  
80 lbs.



Model O Single-Stage  
Pump—Vacuum, blank  
flange: 1 mm, 1 CFM,  
1/6 HP, Weight 48 lbs.

*Beach-Russ Vacuum Pumps  
are also available in types  
and sizes for evacuation  
and testing of refrigeration  
equipment on a production  
basis.*

**BEACH-RUSS COMPANY**

50 Church Street • New York 7, N. Y.

Address Department 56

the contract and it merely seeks to be made whole.

"The recovery of the amount paid on the price would not restore the purchaser to the position it was in before the contract was made. To be placed in its original position it should recover the loss it sustained as well as the amount paid on account.

"To hold that the purchaser must keep the equipment which it does not want and which will not be of service to it in order to recover for the loss of the produce that was put into it, seems to require something which is lacking in common sense and is not called for by any principle of law. The underlying principle in such a situation is that the buyer should be made whole."

*Waldman Produce, Inc. v. Frigidaire Corp.*, 284 N.Y.S. 167, New York.

### SALESMEN'S COMMISSIONS

A SALESMAN employed as manager of the commercial refrigeration department of a western dealer received in addition to a salary of \$200 a month a commission of 2½ percent on all sales from his department.

When later he resigned, a purchase contract for refrigeration equipment for \$6,099 had been signed and a down payment made by the customer but the goods had not been shipped. After giving this order the purchaser had moved and another type of machinery had been substituted for that specified in the original contract.

The employer refused to pay the commission on this sale, contending that since the goods stipulated in the original contract were not to be delivered and others had been substituted the original contract had been abandoned and as a consequence no commissions were due this salesman.

In its decision of the lawsuit brought by the salesman the court said in rendering judgment against the employer for the amount of this commission,

"This is not a case in which the salesman could demand compensation only upon receipt of payment." Then pointing out the distinction between this and contracts of that character the court added, in reference to the law governing commissions earned when payment is received from the customer,

"The employer is bound by its contract to fill all accepted orders with all practical dispatch. It is required to exercise diligence and good faith in its efforts to fill the orders and to collect but so long as it proceeds with all practical dispatch and in good faith to complete the contracts arising from the salesman's orders the salesman is not entitled to his commissions until the customer has paid the purchase price."

Then turning to the contract in this instance the court added, "When this purchaser gave the salesman the original order, signed the purchase agree-

Circle No. 20 on Reader Service Card



# MISTER WHOLESALE:

## HOW ABOUT **YOUR** ORDER FOR **WOLVERINE** **COPPER** **REFRIGERATION** **TUBE ?**



There's one sure way to build a bigger wholesaler business. That's by concentrating on repeat orders from satisfied customers. The formula: handling only top-quality products.

Wolverine copper refrigeration tube is a basic product upon which you can build your business. It's an industry favorite with service engineers because it's made to their specifications.

For example, it's plug drawn to assure bright, mirror-finish, inside diameters. Tube ends are sealed so that interiors are kept clean and dry. Wolverine refrigeration tube saves time, too—it's easy to work in the shop or on the job. Fifty-foot coils are individually packaged for easy handling.

Remember: it's a good idea to keep on top of inventories. If they're down, we'll fill them—fast\*! Write today for copies of Wolverine's tip-filled booklet "Tube Trails" for your customers. Ask, too, for a copy of the wholesaler Want Book. It'll help! Wolverine Tube Division of Calumet & Hecla, Inc., 1405 Central Avenue, Detroit 9, Michigan.

\*ORDER FROM ONE OF THESE HANDY WOLVERINE MILL DEPOTS:

**DETROIT 26, MICH.**  
1850 Guardian Bldg., Woodward 1-7250  
**DECATUR, ALABAMA**  
Decatur 2800  
**PHILADELPHIA 7, PA.**  
1408-10 Liberty Trust Bldg.,  
Rittenhouse 6-1442—6-3155  
**PROVIDENCE, R. I.**  
417 Industrial Bank Bldg., Jackson 1-5941-42  
**ST. LOUIS 5, MO.**  
207 Larson Bldg., Volunteer 3-7140  
**CHICAGO 2, ILL.**  
One N. LaSalle St., ANDover 3-6083-84-88

**HOUSTON 3, TEXAS**  
2 N. York St., Capitol 6191  
**LOS ANGELES 21, CALIF.**  
1025 E. 16th St., PRospect 8326  
**LONG ISLAND CITY, N. Y.**  
11-26 46th Road, StIlwell 6-0390  
**DENVER 4, COLORADO**  
802 12th Street, AComa 5874-75



**WOLVERINE TUBE DIVISION**  
OF CALUMET & HECLA, INC.  
*Manufacturers of Quality Controlled Tubing*

PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA. SALES OFFICES IN PRINCIPAL CITIES  
EXPORT DEPARTMENT, 13 EAST 40TH STREET, NEW YORK 16, NEW YORK

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and AIR CONDITIONING • JUNE, 1954

# SEE— Tecumseh

## FOR A FULL LINE OF REFRIGERATION EQUIPMENT

### HERMETIC

Compressors and units from  $\frac{1}{8}$  to 2 H.P. in all usual back pressures.



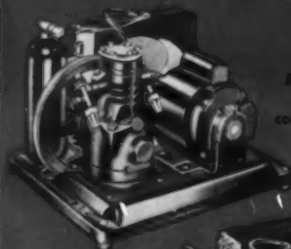
Model S80LE,  
 $\frac{1}{8}$  H.P. static  
condensing unit.



Model C2813,  
 $\frac{1}{2}$  H.P. twin  
cylinder compressor.

### SELF-CONTAINED

Units covering the range from  $\frac{1}{8}$  to  $\frac{1}{2}$  H.P. in all back pressures.



Model F14-13,  
 $\frac{1}{4}$  H.P.  
condensing unit.



Model F13-23,  
 $\frac{1}{2}$  H.P.  
condensing unit.



TECUMSEH

## TECUMSEH PRODUCTS

TECUMSEH, MICH. *Company*

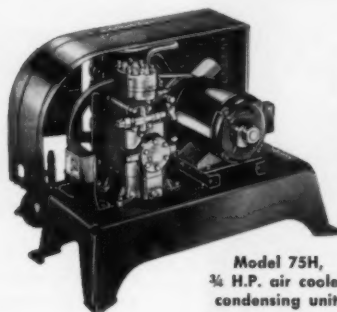
EXPORT DEPT. 2111 WOODWARD AVE., DETROIT, MICH.

**FOR THE FIRST TIME THE FULL LINE OF TECUMSEH HERMETIC AND OPEN TYPE EQUIPMENT IS AVAILABLE TO THE DEALER TRADE**

Take a close look at these units and compressors now being offered the dealer trade. Here you will find a compressor or unit to meet most refrigeration applications up to 15 H.P. With one line you can supply hermetics from  $\frac{1}{8}$  to 1 H.P. for domestic and commercial replacement applications, self-contained units for commercial installations up to  $\frac{3}{4}$  H.P. and remote units up to 15 H.P.

Also consider the fact that this line includes all the latest advancements in refrigeration design such as: oil pumps for pressurized lubrication, high speed operation, multiport suction and discharge valves and many others too numerous to enumerate.

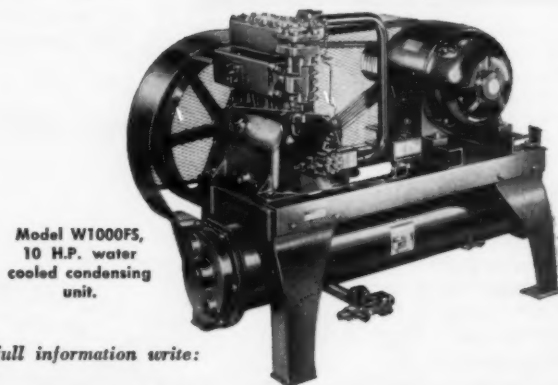
We suggest you investigate the selling features of this line and see how you can cash in with the most complete line in the industry.



Model 75H,  
 $\frac{3}{4}$  H.P. air cooled  
condensing unit.

### REMOTE

Units, either air cooled, water cooled or combination air-water cooled. Complete range of sizes from  $\frac{1}{4}$  to 15 H.P.



Model W1000FS,  
10 H.P. water  
cooled condensing  
unit.

For full information write:

The world's largest  
producer of condens-  
ing units for the re-  
frigeration industry. ★

ment and paid a deposit, the salesman under this contract, became entitled to his commission. The fact that changes in the equipment were made did not release the employer from its obligation."

*Harris v. Specialties Distributing Co.*  
9 N. W. 2d 645, Michigan.

#### WAIVER OF RIGHT TO REJECT

**I**N A contract for the construction of a refrigeration plant in a Chicago warehouse the sellers agreed,

"After the plant is started we will furnish an engineer to have charge of the operation of the machine for ten days during which time we will do the work and produce the temperatures herein specified. At the end of the above mentioned ten days you shall accept or reject the plant, it being understood however that if it shall meet the requirements of this proposition it shall be accepted.

"If rejected you shall notify us in writing and permit us to enter the premises and remove the same without charge to you and upon refunding to you whatever money has been paid to us. An acceptance after the above mentioned period shall be in full discharge of the agreements hereinbefore contained."

The plant was installed and operated under the supervision of the seller's engineer for four weeks. Then the plant was turned over to the purchasers who continued to operate it until the seller sued to recover \$13,844.37 that remained unpaid under the contract.

In their defense to this action the purchasers contended that the engine did not conform to the specifications in the contract and was worth \$5,000 less than it would have been had it conformed to such specifications.

A judgment was awarded the refrigeration equipment dealers and the owner of the warehouse appealed. In sustaining this judgment the Illinois Supreme Court said,

"It cannot well be contended that the use of the engine after the trial period did not constitute an acceptance of the plant. The test was completed, the seller had withdrawn its engineer, claimed to have performed its contract and was demanding payment.

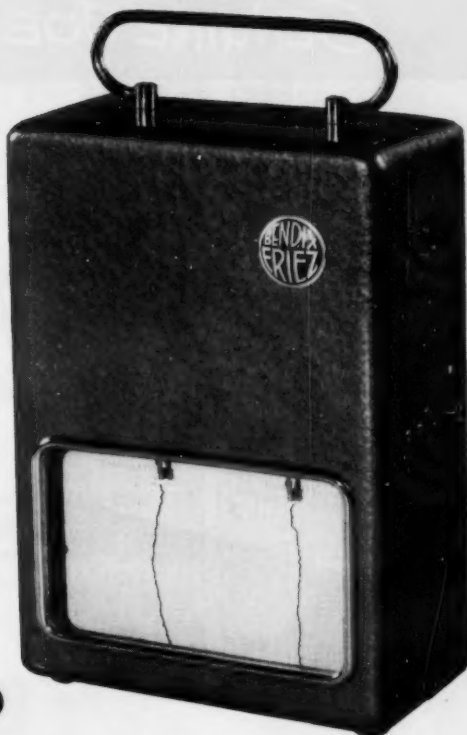
"If it conformed to the contract the purchaser was bound to accept it. If it did not substantially conform to the contract the purchaser had the right to accept or reject it at its option. If it chose to retain and use the engine it thereby accepted the ownership of it.

"An act done by the buyer of goods tendered in fulfillment of a contract of sales which he would have no right to do if he were not the owner, constitutes in itself an acceptance of the goods."

Then commenting on the excuse of the purchaser for continuing to use the machine, the court said,

"The purchaser offered to prove that

# SINCE...



**you sell . . . install . . . test . . . or  
service air conditioning . . . this  
portable recorder of temperature  
and humidity is of special value.**

This precision instrument is as easy to carry as a camera. It records both humidity and temperature on the same chart.

All charts cover a range from 0 to 100% relative humidity. Temperature charts have a Fahrenheit range of 0 degrees to 110 degrees F. or charts are available with a Centigrade range of minus 18 degrees C to plus 43 degrees C. The recorders are built for 10 or 30 hour operation.

#### Rugged, compact

This is of sturdy design . . . and an instrument of professional accuracy. It is ideally suited for use in small spaces and difficult locations. It is 5 3/4" wide (closed). 8 7/16" high x 3 1/4" deep. Net weight 3 pounds.

Built by Bendix-Friez . . . our 77th year of making precision instruments that set a standard for the world.



#### FRIEZ INSTRUMENT

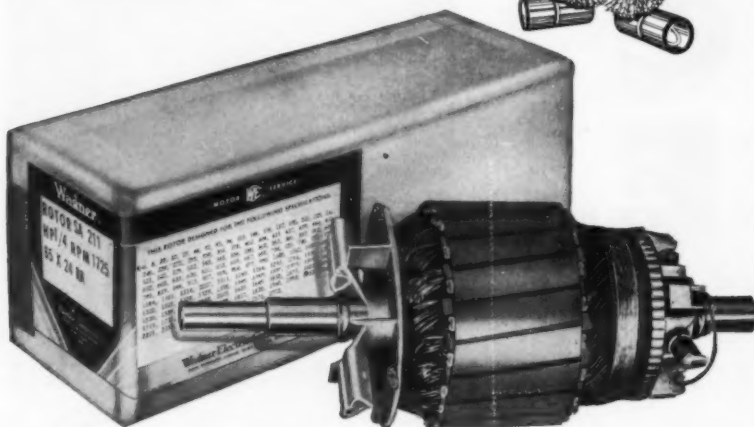
Division of Bendix Aviation Corporation  
1410 Taylor Ave. Baltimore 4, Md.

#### Export Offices

BENDIX INTERNATIONAL DIVISION  
205 E. 42nd St. New York 17, N.Y., U.S.A.

# GENUINE JOE SAYS:

here's a way  
to save *hours*  
of  
rewinding time...



**YES,** you *can* save time—and money, too—by replacing fractional hp motor armatures with Wagner Standard Rotors. They actually cost less than a rewinding job. There's no guesswork involved in choosing the right replacement rotor—a "tell all" label on the carton, used with K and M "spec" lists, assures the right unit every time. Special shafts present no problems. It's simple to remove the shaft from the standard rotor and replace it with the special.

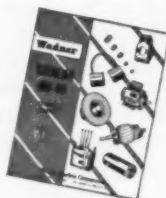
**P.S.** It's wise, too, to carry a stock of Wagner Replacement Motors.



They come in handy for emergency use when your customer needs immediate service and they're easy to sell to replace motors "too far gone" for repairs.

**P.P.S.** Be sure to get the **NEW Electrical Service Catalog MU-40.**

It's just off the press. Every repair shop needs this valuable help. It's yours for the asking.



**WAGNER ELECTRIC CORPORATION**  
6442 Plymouth Ave., St. Louis 14, Mo., U. S. A.

MOTORS • BEARINGS • STANDARD ROTORS  
BRUSHES • CAPACITORS • COMMUTATORS

**650 AUTHORIZED SERVICE STATIONS  
OR PARTS DISTRIBUTORS**



MS54-B

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large quantities of eggs, poultry, butter and like products of perishable nature were stored in its warehouse; that the refrigeration necessary for their preservation required the operation of the machinery furnished by the seller; that to have shut it down would have resulted in great destruction and loss of such perishable property and great damage to the purchaser.

"When the purchaser filled its warehouse with perishable property it knew that upon completion of the test it must either accept or reject the plant. When the test was completed the purchaser might have rejected the plant if it did not conform to the contract, but having done so the situation which it had itself voluntarily brought about would not justify the use of the plant which it had rejected, either for an actual profit or to save a loss."

*Fred W. Wolf Co. v. Monarch Refrigerating Co., 96 N. E. 1063, Illinois.*

## SELLER'S LIABILITY FOR FAILURE TO WARN

**A** REFRIGERATING plant was installed in a Wisconsin warehouse under an agreement that an employee of the warehouse should assist in the installation and be given sufficient instructions properly to operate the plant.

After the plant had been installed the contractor's engineer continued in charge for ten days acquainting this employee with the details of the operation of this machine.

A short time after the employee was in complete charge of the plant he attempted to drain an oil drain trap by a valve and a quantity of oil held in suspension by anhydrous ammonia gas sprayed through the valve onto the employee with serious injuries.

The court in awarding a judgment to the victim of this accident against the contractor, said,

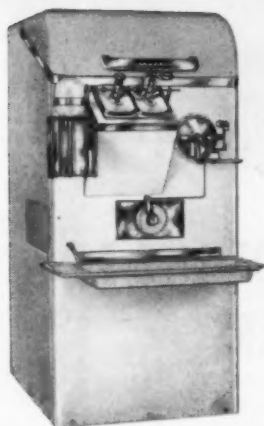
"Assuming that the contract between the seller and the purchaser did not require the former to instruct this employee as to the proper operation of the valve, nevertheless it is certain that inasmuch as the engineer of the contractor assumed to instruct the employee in this regard he was under obligations to give him full and proper instructions in relation to the danger which might result under conditions like those that existed in which a plug formed at the mouth of the valve from the viscous formation of oil containing a foreign substance.

"Instead of informing this employee of the deleterious effect which oil and anhydrous ammonia would have upon this employee's person if it came in contact therewith, he expressly depreciated such danger and told the employee that such contact would not hurt him."

*Graess v. Westerlin & Campbell Co., 216 N.W. 161, Wisconsin.*



# Mills Industries announces the introduction of a new milk shake machine—the

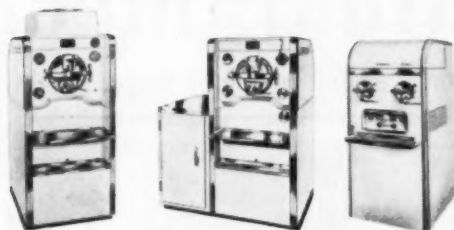


## Pronto-Shake

Pronto-Shake is the only machine designed to make a *complete milk shake*. It holds and freezes mix, supplies 3 flavors—satisfying all necessary requirements, and contains its own sanitary, shielded blender. It makes fabulous profits for its owners when averaging only a few shakes per hour—and it can produce *hundreds* of shakes per hour when required. *Any* and every store selling milk shakes is your potential and likely prospect for the Mills **Pronto-Shake**.

An advertising campaign is breaking in many publications in June and July including The Saturday Evening Post. Inquiries received are sent to our distributors.

Would you like to sell the **Pronto-Shake**? Preliminary orders and sales research indicate that the **Pronto-Shake** will be the biggest seller of all time. To do an even bigger job we need more active, well-financed companies or individuals to sell the **Pronto-Shake**. If you would like more complete information on the Mills Distributorship, mail the coupon or write on your company letterhead.



Makers of the World's Finest  
Continuous and Other Retail Freezers  
for nearly a quarter century

**MILLS INDUSTRIES, Inc.**  
4100 Fullerton Avenue • Chicago 39, Illinois

Mr. A. E. Wilson, Sales Manager, Freezer Division  
Mills Industries, Incorporated  
4100 Fullerton Avenue, Chicago 39, Illinois

Dear Mr. Wilson:  
Please send me complete details on Mills Distributorship Franchise.  
I am interested in the following territory

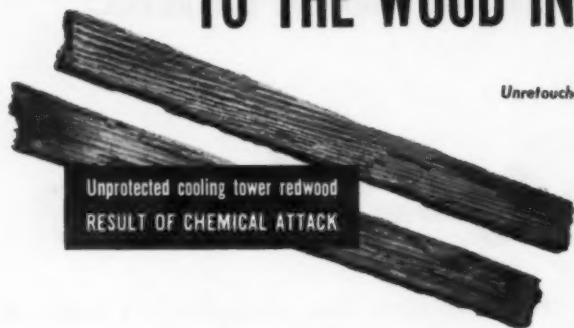
Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

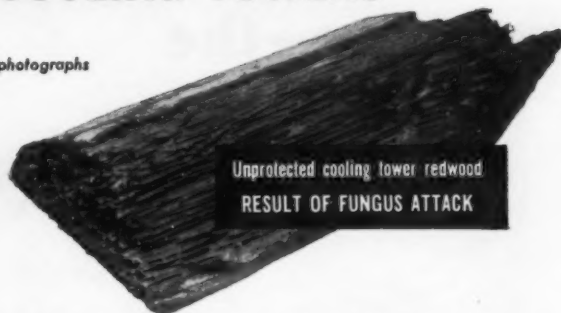
Circle No. 89 on Reader Service Card

# LOOK WHAT CAN HAPPEN TO THE WOOD IN COOLING TOWERS



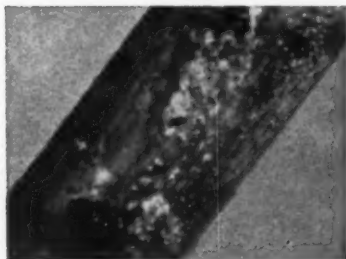
Unprotected cooling tower redwood  
RESULT OF CHEMICAL ATTACK

Unretouched photographs



Unprotected cooling tower redwood  
RESULT OF FUNGUS ATTACK

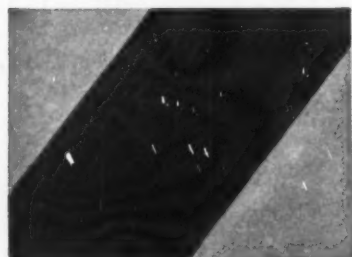
## PRESSURE CREOSOTING ADDS YEARS OF LIFE TO HALSTEAD & MITCHELL COOLING TOWERS



FUNGUS ROTTED UNPROTECTED DECKING

Unretouched photographs

CLEAN PRESSURE-CREOSOTED DECKING



Examine these unretouched photographs carefully. Constantly wetted wood decking in a cooling tower is subject to immediate attack by fungus and marine parasites. It is also subject to chemical deterioration from acids in water. All wood used in Halstead & Mitchell Cooling Towers is protected against these twin enemies.

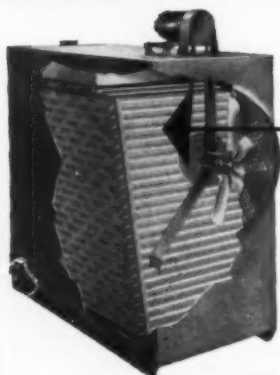
### WHY PRESSURE CREOSOTING?

Creosote . . . with 162 elements toxic to fungus growth and parasites . . . also makes wood more resistant to chemical attack. Deep penetration of the wood by Koppers Pressure-Creosoting gives the longest possible wetted decking life. Therefore, all Halstead & Mitchell Cooling Tower decks are Pressure-Creosoted, and are guaranteed against rotting due to fungus growth . . . for 20 years!

ONLY HALSTEAD & MITCHELL OFFERS THE

# 20-Year Guarantee!

ON THE WETTED DECK SURFACE against rotting by fungus attack



### 2 thru 100 Tons

Sheet-Steel Cabinets,  
5-times protected  
Stainless Steel Fans and Shafts  
Weather Shielding  
Everdur Bolts for ease of  
disassembly at any time.



## Halstead & Mitchell

At Leading Refrigeration & Heating Wholesalers Everywhere

OFFICES: Bessemer Bldg., Pittsburgh 22, Pa.

Circle No. 26 on Reader Service Card

JUNE, 1954 • COMMERCIAL REFRIGERATION

# A Coupon for MORE AIR-CONDITIONING PROFITS!



WIRING DEVICE DIVISION  
THE ARROW-HART & HEGEMAN ELECTRIC CO.  
103 HAWTHORN ST., HARTFORD 6, CONN.

Yes

I WANT MORE PROFITS FROM MY AIR-CONDITIONING INSTALLATIONS.

☐ SEND ME FREE WIRING DEVICE FOLDER — "BIG IDEA IN AIR CONDITIONING FOR '54" — THAT TELLS "HOW" IN DETAIL.

☐ SEND ME FREE FOLDER — "MOTOR CONTROLS FOR HEATING, VENTILATING, AIR CONDITIONING!"



MY NAME \_\_\_\_\_ POSITION \_\_\_\_\_

COMPANY \_\_\_\_\_

CO. ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

C.R.-A.C.

## YOU ALWAYS GET MORE FOR YOUR MONEY WITH ARROW-HART

Someone earns extra cash from the wiring and rewiring directly created by your air-conditioning installations. Is it you? Are you *cashing-in* by taking full advantage of this seldom-tapped market? Here's how: On your next job, sell your customer on *proper* installation — installation that includes the addition of adequate wiring . . . the right Arrow-Hart switches, receptacles, and other devices for safe, efficient, convenient air conditioning. You'll gain in satisfied customers . . . fewer call-backs . . . repeat and referred business. Plus, job-profit!

A man that buys air conditioning proves he's willing to spend *real* money on home, office, and plant improvement. He's a perfect prospect for adequate wiring designed to serve today and in the future. Don't overlook this possibility.

And, don't overlook Arrow-Hart's *profit-designed* Wiring Devices for all wiring jobs! Your electrical distributor carries the complete Arrow-Hart Line. See him today!

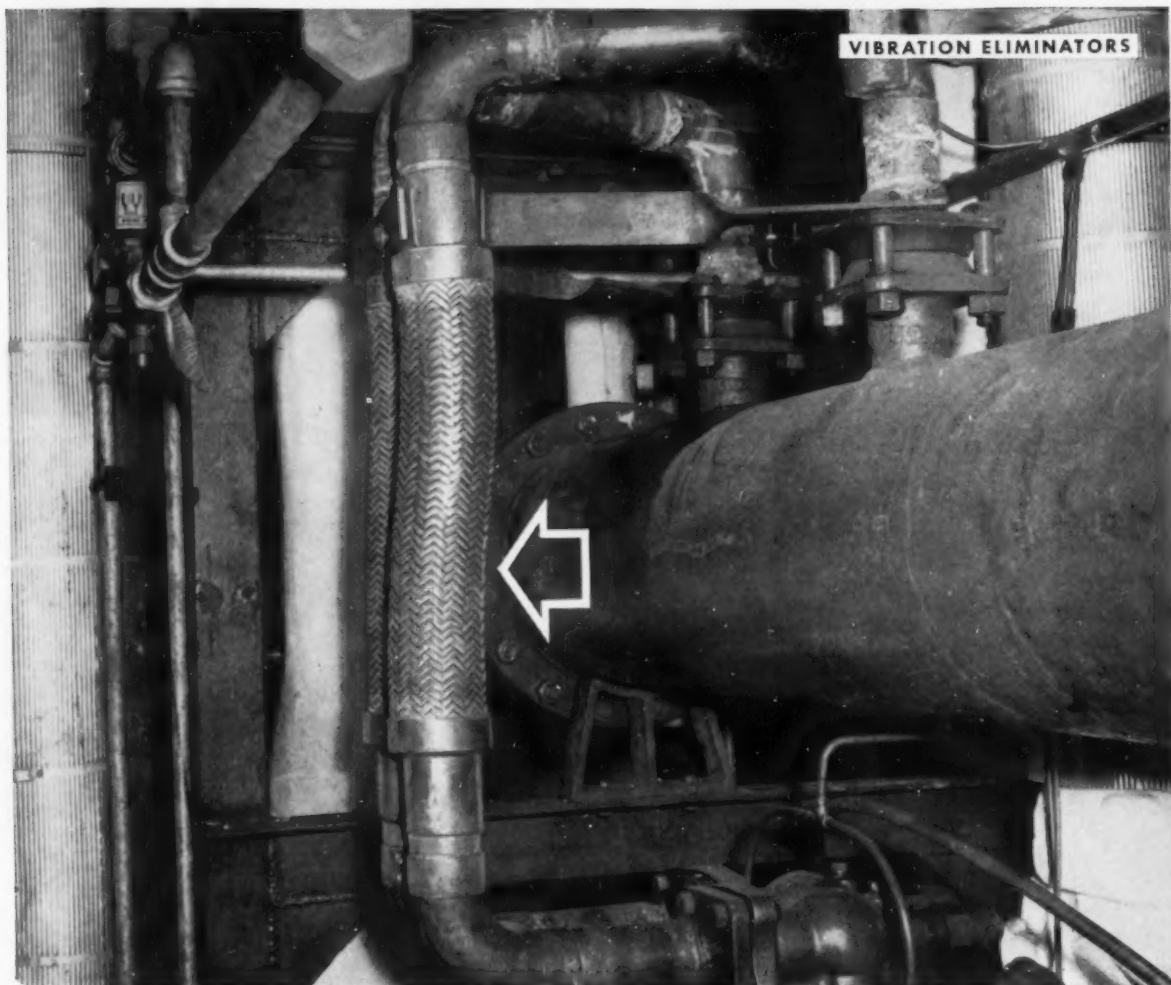


### Wiring Device Division

THE ARROW-HART & HEGEMAN ELECTRIC CO.  
103 HAWTHORN STREET, HARTFORD 6, CONN.

Branches in: Boston, Chicago, Dallas, Denver, Detroit, Los Angeles, New York, Philadelphia, San Francisco. In Canada: ARROW-HART & HEGEMAN (CANADA) LTD., MT. DENNIS, TORONTO. In England: ARROW ELECTRIC SWITCHES, LTD., EALING, LONDON W 5.

Also Manufacturers of Motor Controls, Enclosed Switches and Appliance Switches for Air Conditioning, Heating and Ventilating Industry.  
and AIR CONDITIONING • JUNE, 1954



VIBRATION ELIMINATORS

COMPRESSED FREON-22, used to chill brine, is pumped to condenser through two 2½" American Vibration Eliminators. Freon gas returns to compressor through a 3½" American VE (not shown).

## Vibration from 40-hp compressor can't crack this piping protected by American Vibration Eliminators

When you line up a compressor this size—no matter how good the installation—there's sure to be plenty of kick left in it. This unit pounds away at 40-hp and sets up considerable vibration . . . enough to be a menace to rigid refrigerant lines.

Engineers of Hoffmann-La Roche, Inc., Nutley, N. J., manufacturers of pharmaceuticals and vitamins, used two American Seamless Flexible

Bronze Connectors — called Vibration Eliminators—to solve the problem here.

These flexible connectors allow for expansion and contraction in rigid lines. They absorb and dampen vibration . . . muffle noise. Refrigerant lines are guarded against fatigue-cracking. American Vibration Eliminators are leakproof, too. That's especially important here, since they

carry costly Freon-22 under a working pressure of 210 lb.

Leading wholesalers stock packaged American Vibration Eliminators to fit standard copper tube sizes. For more information, write for Bulletin VE-310R to: *The American Brass Company, American Metal Hose Branch, Waterbury 20, Conn.* In Canada: *The Canadian Fairbanks-Morse Co., Ltd.*

54227

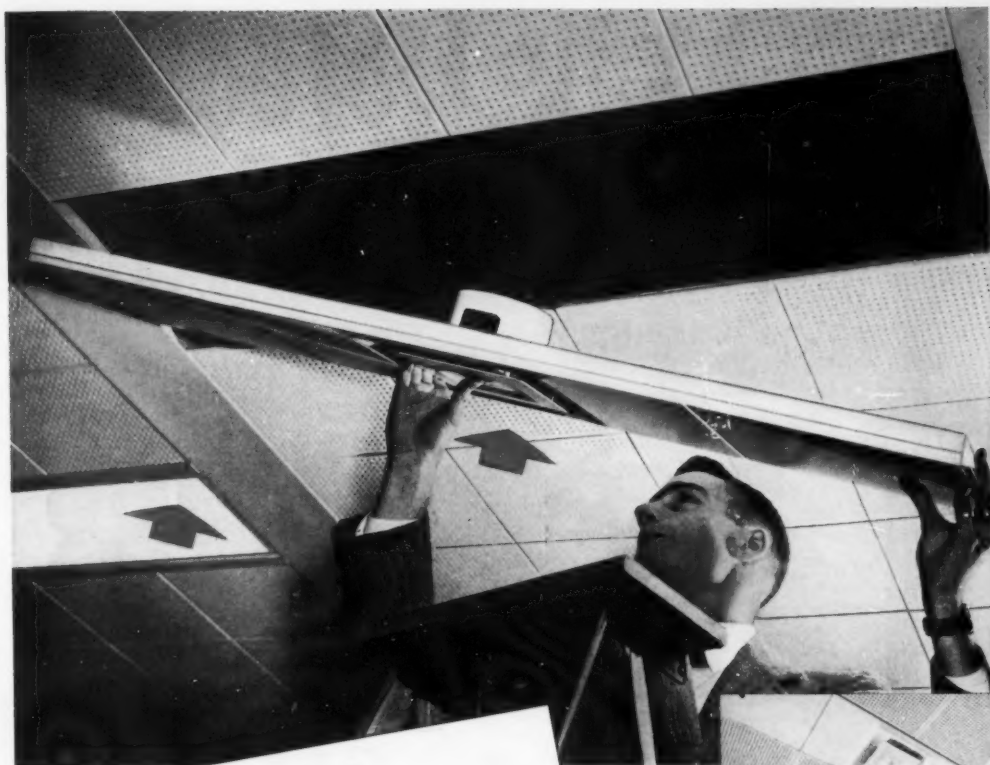


Circle No. 28 on Reader Service Card

WHEREVER CONNECTORS MUST MOVE

**AMERICAN**  
flexible metal hose and tubing  
an ANACONDA® product





# Announcing kno-draft

panel type air diffusers

ESPECIALLY DESIGNED for acoustical suspended ceilings, Kno-Draft Panel Type Air Diffusers can be installed as fast and easily as the acoustical tiles themselves—a matter of minutes. Ducts and tubing connections are readily accessible.

Furthermore, Kno-Draft Panels do not have to be lined up with ducts. They can be placed anywhere on the ceiling—are connected to ducts by special patented flexible tubing. This allows great flexibility and permits relocation of offices and partitions without moving ductwork.

Air volume through Kno-Draft Diffusers is adjustable *after* installation. Air velocities remain constant at all damper settings. Mail coupon today for full information on this new exclusive development in air diffusion. Connor Engineering Corporation, Danbury, Conn.



ACTUALLY PART of the ceiling, Kno-Draft Panel Type Air Diffusers fit precisely into the acoustical tile pattern, creating a unified "dead level" surface that is pleasing to the eye.

FLEXIBLE TUBING connects Kno-Draft Panels to ducts, permits wide latitude in installation. Panels may be moved as necessary without affecting efficiency or requiring change in ductwork.



CONNOR

## kno-draft®

panel type air diffusers

CONNOR ENGINEERING CORPORATION  
Dept. C-64, Danbury, Connecticut

Without obligation, please send your Bulletin K-36 describing the new Kno-Draft Panel Type Air Diffusers.

Name

Position

Company

Street

City  Zone  State

see our catalog in  
ARCHITECTURAL  
FILE  
or write for copy

# A NEW Leak Detector!

...FIRST WITH

**LP**

LIQUEFIED PETROLEUM

★ WEIGHS ONLY 3¼ LBS.

★ LIGHTS INSTANTLY

★ SUPER SENSITIVE

★ POSITIVE, SPLIT-  
SECOND DETECTION

NO. LP700

# TURNER

LIQUEFIED

**LP**

PETROLEUM

## Halide GAS LEAK DETECTOR

Here is the most important advancement in portable Halide gas leak detectors in recent years! Developed by Turner engineers, this new unit offers you easier handling . . . greater sensitivity . . . the convenience of a light weight disposable fuel tank. Instantly and accurately detects leaks of *all* non-combustible Halide refrigerants; reacts to gas by easy-to-see changes in color and intensity of flame. You will find the Turner detector an efficient tool of superior quality . . .

### FEATURES

**SUPER SENSITIVE** . . . unsurpassed for positive reaction to non-combustible Halide gas leaks in even the most minute concentrations. Color changes in flame are brilliant and show instantly . . . speeds testing . . . leaves nothing to guesswork. More powerful suction draws fumes to reaction plate faster and flame color clears immediately.

**EASY TO USE** . . . light weight (only 3¼ lbs.); compact in size, diameter 2-7/8", height 18-1/2"; light to handle and handy on the job; no fine valve adjustment required for in-

stant lighting; just *one* valve for easy, positive-control flame adjustment.

**DISPOSABLE FUEL TANKS** . . . end re-filling problems; simply replace entire fuel tank when empty (conveniently available at dealers everywhere); no chance for fuel to be contaminated. Note: these are the same tanks used with Turner Nos. LP500 and LP600 (Liquefied Petroleum) Blow Torches. By obtaining burner assembly and special accessories, you have an inter-changeable tool for soldering, light brazing, and many other shop and service jobs.

**REACTION PLATE** . . . specially designed to be longer lasting, even under continuous heavy-duty service; quickly and easily removable when replacement is necessary.

**FLEXIBLE METAL HOSE CONNECTION** . . . prevents kinking and transfer of heat to the rubber hose.

**EXTRA-LONG (4-ft.) SEARCH HOSE** . . . an appreciated convenience when working in hard-to-reach spots.

**STRONG, STURDY CONSTRUCTION** . . . all metal; no fragile, breakable parts; engineered for long dependable service.

**ECONOMICAL** . . . has long burning time; only small flame required for instantaneous detection.

## THE TURNER BRASS WORKS

SYCAMORE ILLINOIS

Since 1873

TOTAL  
WEIGHT 3¼ LBS.

DIAMETER 2⅞"

HEIGHT 18½"





# YOU'LL SELL MORE PROFITABLE JOBS

with the complete line of

## *Curtis*

**AIR CONDITIONING AND REFRIGERATION EQUIPMENT**

Every product in the Curtis line is built with quality material and workmanship.

Curtis equipment is known around the world for its dependability and efficiency.

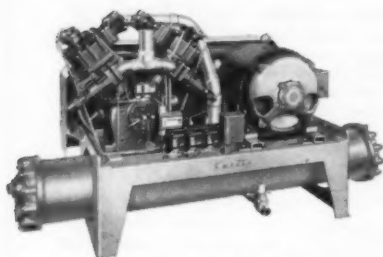
With the complete Curtis line, you can handle any installation for **Home, Office, Store, or Factory.**



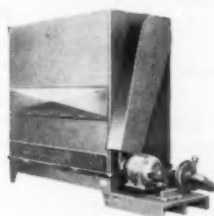
**NEW 1954 Curtis Room Air Conditioner**—an attractive, efficient unit with a BIG market potential



**Packaged Units**—2, 3, 5, 7½ and 10 tons  
Choice of open or semi-hermetic compressors... and 15 ton packaged Central type units



Condensing units—through 80 tons



Evaporative Condensers, Cooling Towers and Air Handling units to match



Residential cooling and heating units

**You may qualify for a direct factory franchise. Write us, using your company letterhead.**



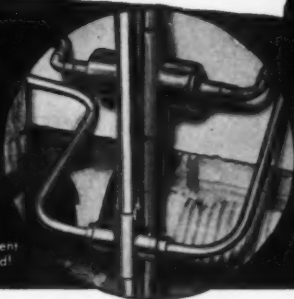
National advertising in *Saturday Evening Post*, *Time*, *Newsweek* and *House and Home*, plus many other publications helps sell Curtis to your customers and prospects. Attractive new sales literature is available to help you sell in your local area.

**CURTIS REFRIGERATING MACHINE DIVISION**  
OF CURTIS MANUFACTURING CO.  
1915 KIENLEN AVENUE  
ST. LOUIS 20, MISSOURI

765

# YORK CORPORATION USES **REVERE** COPPER WATER TUBE

ONE OF THE 964 cross connections of Revere Copper Water Tube located in the 18 risers covering 14 floors. 13,000 feet of Revere non-rusting Copper Tube were used, in sizes from 3/4" to 4". Picture, if you will, having to make these connections in these cramped quarters with pipe that couldn't be bent and had to be threaded!



## ...IN AIR CONDITIONING 14 FLOORS OF **NETHERLAND PLAZA HOTEL** CINCINNATI, OHIO

Engineers of the York Corporation told us that they used Revere Copper Water Tube on this job for a number of reasons. Installation of the risers was simplified because no threaded connections were necessary, there were fewer fittings and what few fittings were necessary, were readily soldered. They knew from years of past experience with non-rusting copper that they could count on this "ageless" metal to endure through the years. Also, York Engineers consider copper a natural for air conditioning installations.

In fact, you could almost say, "Where there's air conditioning there's copper." Check the many advantages of copper water tube at right and you'll readily see why.

Keep out of trouble, protect your reputation for quality work, with copper. Use Revere Copper for air conditioning lines, radiant panel heating, hot and cold water lines, underground service lines, waste stack and vent lines, processing lines. See the Revere Distributor nearest you today. And, if you have a technical problem, he will put you in touch with Revere's Technical Advisory Service.

### **REVERE**

**COPPER AND BRASS INCORPORATED**

Founded by Paul Revere in 1801  
230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.;  
Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome,  
N. Y.—Sales Offices in Principal Cities, Distributors Everywhere  
SEE "MEET THE PRESS" ON NBC TELEVISION, SUNDAYS

## WHY REVERE COPPER WATER TUBE IS PREFERRED FOR AIR CONDITIONING

### EASY TO BEND *Saves Time*



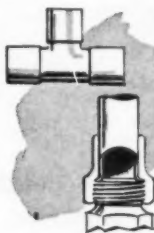
Revere Copper Water-Tube is easy to bend. Soft temper can be bent by hand to meet installation conditions.

### HANDY LENGTHS

*Save Fittings... Labor*  
Revere Copper Water Tube comes in straight lengths of 20' in hard and soft tempers. 60' coils of soft temper reduce the number of fittings needed.



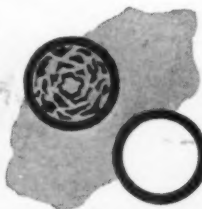
### SOLDER OR COMPRESSION FITTINGS *Need Less Work Room ... Save Metal*



No worry about wrench room when you use Revere Copper Water Tube with solder fittings. Compression fittings can also be used. No threading is necessary with either type fitting. Wall thickness of tube used can thus be less than for threaded pipe.

### NON-RUSTING

Rustable pipe eventually clogs as shown in drawing at top right. Non-rustable Revere Copper Water Tube suffers no loss of flow or pressure as shown at bottom right. No allowance in pipe size need be made for rust accumulation with Revere Copper Water Tube.





# Servel

## SUPERMETIC

**OFFERS YOU A LINE  
THAT Protects  
Your Profits . . .  
AND Safeguards  
Goodwill!**

CONCENTRATED ON QUALITY — comprising standard and capillary tube models in all the most popular sizes — featuring a full range of super-performance power units — incorporating the newest advances in condensing unit engineering — unequalled for compactness and cost-saving efficiency — that's the SERVEL SUPERMETIC line! There's no surer way to keep customers sold than to make SUPERMETIC a "must" specification for every possible application! There's no line backed with a more liberal warranty than Servel's low-cost, factory-extended protection! There's no better time than RIGHT NOW to get all the facts . . . mail the coupon below TODAY!

# Servel

THE NAME TO WATCH FOR GREAT ADVANCES  
IN REFRIGERATION AND AIR CONDITIONING



**HERMETICALLY  
SEALED**

Air-Cooled and Water-Cooled Electric Condensing Units In All Popular Sizes, 1/4 HP through 1 HP.

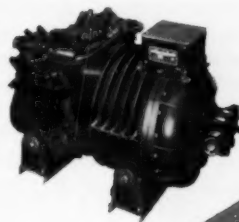


**SUPERMETIC  
CAPILLARY TUBE**

Electric Condensing Units in 1/4, 1/2 and 1/2 HP sizes for manufacturers of small refrigeration fixtures.

### SUPERMETIC ELECTRIC POWER UNITS

For a Wide Range  
of Applications in  
Sizes from 1/4 HP  
through 7 1/2 HP



**MAIL COUPON NOW  
FOR FREE  
SUPERMETIC CATALOG**

**SERVEL, INC. COMMERCIAL REFRIGERATION DIVISION**  
EVANSVILLE 20, INDIANA

Send free SUPERMETIC catalog and trade information to:

NAME.....

FIRM NAME.....

ADDRESS.....

CITY.....ZONE.....STATE.....

# ABOUT PEOPLE

**R. W. Bigger** has been appointed factory representative for



Federal Refrigerator Mfg. Co. Bigger's territory will include northern California, northwestern Utah, and southwestern Oregon. Active in retail sales of commercial refrigeration equipment on the west coast for over fifteen years, Bigger will contact Federal dealers and distributors, as well as bakery equipment dealers and food chains.

**George S. Wheaton**, assistant vice president of American Potash & Chemical Corp., has been named head of the company's Eston Chemicals Div. Wheaton began his chemical career with Hercules Powder Co. in San Francisco, following which he played a major role in the development of the Eston Chemicals business which became a division of American Potash & Chemical Corp. in 1952.

**William B. Spargur** has been appointed sales engineer for Delavan



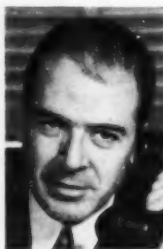
Mfg. Co. Spargur will specialize in sales work with distributors on the Delavan line of compressor parts for commercial refrigeration units, as well as on the oil burner nozzle, industrial nozzle and agricultural nozzle lines. Prior to joining Delavan, Spargur was associated with Electrical Engineering Equipment Co.

Three new sales engineers have been appointed by Bush Mfg. Co. **Earl S. Bates** will cover the Washington, D. C., Virginia and Maryland area; **C. G. Zakoian** will operate out of the Bush Chicago office covering northern Illinois and Wisconsin; and **David Dufur** will cover Washington, Oregon, Idaho and British Columbia out of the west coast office. Bates was formerly eastern sales manager for Fedders-Quigan Corp. Zakoian was formerly a sales engineer with Fairbanks-Morse, and Dufur was an application engineer with Peerless Pacific Company.

**Albert Penn** has been appointed chairman of the board and **Ralph S. Penn** has been named president of Penn Controls, Inc., at a recent annual meeting of the board of directors. Albert Penn founded the company in 1919 and has been



A. Penn



R. S. Penn

president since its incorporation in 1928. Ralph S. Penn joined the firm in 1937 where he served as manager of several district offices. He was appointed vice president in charge of manufacturing in 1949 and recently served as executive vice president. Other officers re-elected by the board were: Ralph Penn, treasurer; Edward B. Maire, vice president; and James M. Reid, secretary.

**E. W. Seay** has been appointed manager of advertising and sales promotion for the new Air Conditioning Division of the Westinghouse Electric Corp. He joined Westinghouse in 1941, and in 1953 became manager of sales promotion for the northeastern region, from which position he comes to the Air Conditioning Division.

**Bert Natkin** has been appointed manager of the newly established



national sales unit in the commercial products department of General Electric Co.'s air conditioning division. Natkin will report to W. F. R. Karsten, commercial products manager of marketing. The new sales unit will provide a centralized purchasing contact for large national users of packaged air conditioners and drinking water coolers. Natkin was formerly the department's sales representative for greater New York and northern New Jersey.

**L. J. Meyers** has been appointed heating and air conditioning products sales representative in the California territory for McQuay, Inc. Meyers formerly represented Farr Co. in northern California as a manufacturer's agent.

**R. M. Anderson** has been appointed field sales manager of



Union Asbestos & Rubber Co.'s cooling division, according to Chester S. Stackpole, the division's general sales manager. Prior to joining Unarco, Anderson had been a member of Servel Inc.'s, factory staff at Evansville, Indiana, in charge of the national account department of the air conditioning division. He has been associated with the air conditioning market since 1937, when he joined Peerless of America, Inc.

Seven field sales representatives have been added by General Electric Co.'s Air Conditioning Div. as part of the recent expansion of marketing facilities which included the addition of two new national



*Save Time! Save Money! Save Effort!*

**DETROIT 777**

# "SPACE SAVER"

**Thermostatic Expansion Valves ...**

*The easiest-to-work-with valves  
on the market!*



- Capacities— $\frac{1}{8}$  to 2 tons, F-12—  
Standard Valve  
—1 to 3 tons, F-12—  
External Equalizer

- "C" and "Z" cross charges available
- Compact, rugged construction
- Mount in any position
- Easily cleaned cartridge needle and seat assembly
- Accessible and easy superheat adjustment
- Large inlet strainer, easily cleaned
- Available with or without external equalizer connection
- External equalizer type easily converted to internal equalizer right on the job.

**DETROIT  
CONTROLS** Corporation

5900 TRUMBULL • DETROIT 8, MICHIGAN

Division of American Radiator & Standard Sanitary Corporation

Representatives in Principal Cities • Canadian Representatives in Montreal, Toronto, Winnipeg—Railway and Engineering Specialties, Ltd.



**AUTOMATIC CONTROLS for REFRIGERATION**

AIR CONDITIONING • DOMESTIC HEATING • AVIATION • TRANSPORTATION • HOME APPLIANCES • INDUSTRIAL USES

*Serving home and industry*

AMERICAN STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWANEE BOILERS • ROSS EXCHANGERS • SUNBEAM AIR CONDITIONERS

Circle No. 38 on Reader Service Card  
and AIR CONDITIONING • JUNE, 1954

sales regions. Cecil C. Coulter has been added to the Los Angeles office and H. J. Carr to the staff in Louisville. Both will specialize in G. E. packaged air conditioners and water coolers for commerce and industry. For sales of home heating and cooling equipment, the following men have been added: John H. Taylor, Detroit; Lee D. Nutter, Chicago; J. H. Shoemaker, San Francisco; S. H. Painter, Philadelphia; and Roy H. Stearns, Washington, D. C.

Frederick H. Wagner, Jr., vice president in charge of sales for Jamison Cold Storage Door Co., died at Hagerstown, Md., on April 7. He had been with the firm for 14 years, starting as sales manager in 1940.

Four application engineers have been named to the Atlanta, Houston, Toledo, O., and Rockford, Ill., sales offices, respectively, of the Reliance

Electric & Engineering Co. The Reliance engineers, who have already assumed their new assignments, are: Arthur J. Stockslager, Atlanta district sales office, who reports to Emory G. Orahood, Southeastern district manager; Walter A. Thorne, Houston district sales office, who reports to F. A. Denison, southwestern district sales manager; R. C. Marchant, Toledo branch sales office, who reports to William C. Mitchell, Toledo branch manager; and Don S. Follett, Rockford branch sales office, who reports to Dale D. Drollinger, Rockford branch manager.

Edward McIntosh has been appointed northeastern regional sales manager for Remington Corp. McIntosh will supervise sales of Remington window and console coolers in the territories of New York, New Jersey and New

England, including metropolitan New York. For the past three years he has been supervisor of air conditioning sales for Philco Distributors, Inc. Remington's district sales managers, Fred Weber in New York—New Jersey, and Louis White, in New England, will continue their present duties under McIntosh's supervision.

Marlo Coil Co. has appointed Kenneth W. Wicks as its representative in the Philadelphia area, with headquarters in suburban Upper Darby. Wicks had previously served for four and one half years as sales engineer for Marlo in the Washington, D. C., office.

Appointment of six regional managers to better coordinate and develop sales of Westinghouse refrigeration specialties has been announced by H. F. Hildreth, manager of refrigeration specialties, Westinghouse Electric Appliance Division. Those appointed are:

# PA 400

## DAVISON'S NEW Refrigeration Desiccant

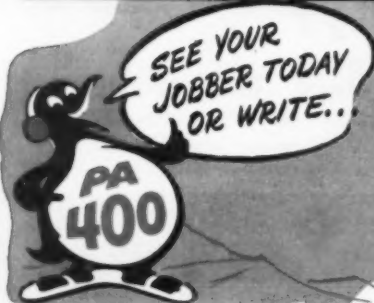
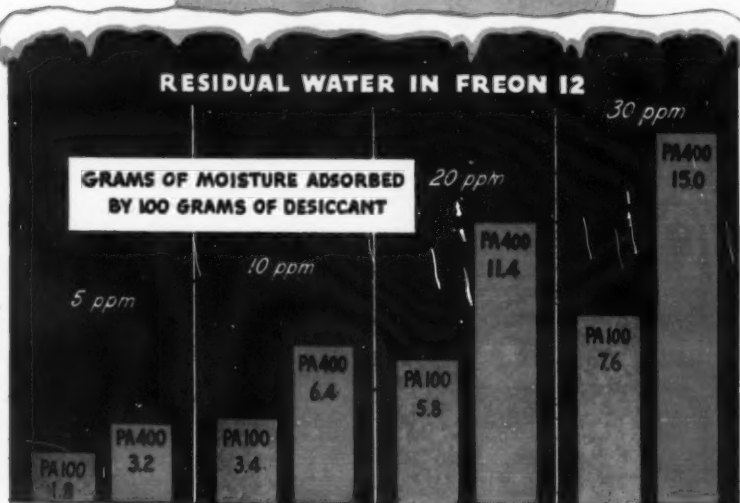
WITH GREATER MOISTURE ADSORPTION CAPACITY

Up to 98% increase in moisture capacity

The Davison Chemical Corporation has long been a leading producer of refrigeration desiccants and the manufacturer of PA 100 — the top desiccant in the field. Now, after many years of research, they have produced PA 400 — a refrigeration desiccant with a greatly increased adsorption capacity.

Tests run on the moisture adsorption capacity of PA 400 in Freon-12 in comparison with Davison's PA 100 show up to 98% increase in capacity.

Tests run on the moisture adsorption capacity of PA 400 in Freon-12 in comparison with Davison's PA 100 show up to 98% increase in capacity.



THE DAVISON CHEMICAL CORPORATION

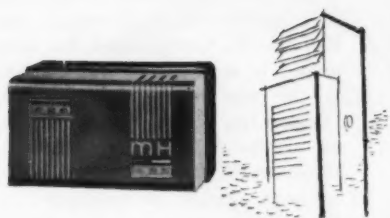
Baltimore 3, Maryland

Producers of Catalysts, Inorganic Acids, Superphosphates, Phosphate Rock, Silica Gels and Silicofluorides. Sole Producers of DAVCO® Granulated Fertilizers.

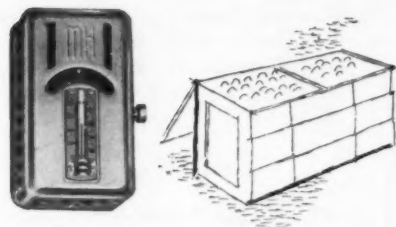
\*T.M. REG. APPLIED FOR

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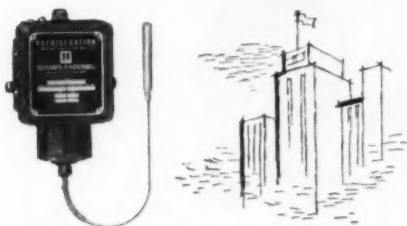




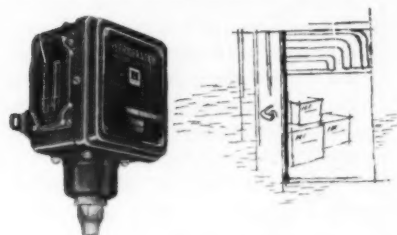
**TA 420 Frigistat.** A thermostat for control of refrigeration and cooling machines. Heavy duty snap-acting contact. Corrosion resistant.



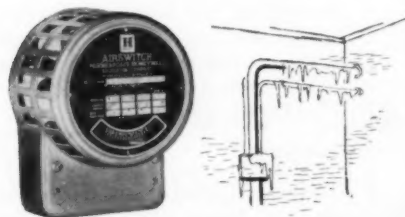
**T 420 Frigistat.** A mercury switch storage room thermostat. Ideal for pilot duty. Highly corrosion resistant. Protected by a rugged case.



**T 414 Temperature Controller.** A heavy-duty mercury switch device to cycle equipment according to remote bulb temperatures. External adjustment screws.



**L 413 Pressure Controller.** Cycles operation by controlling suction line pressure and furnishes hi-pressure cut-off. Holds control point for years. No shift after thousands of operations.



**T 491 Air Switch.** Especially useful when thermostat must operate under adverse conditions. The T 491 is non-corrosive. It is equipped with an enclosed mercury switch.

# Cut Refrigeration Costs with Honeywell Controls

*For frozen food warehouses*

*For large-building air-conditioning*

*For freezer plant refrigeration*

*For warehouse cooling*

**Y**EARLY REPAIR RECORDS offer proof of the kind of trouble-free performance you can expect from Honeywell Refrigeration Controls. For of all controls installed, a very minute percentage are ever returned for repairs.

Cutting costs in this way is one reason why Honeywell Refrigeration Controls can mean big savings for your clients—with fewer service headaches for you. And they also help cut down on product spoilage due to control failure, and excessive electric bills due to improper cycling.

Here are some of the reasons why Honeywell can offer you this long-lived kind of service: Better materials and superior design. Higher standards of production and inspection. A control point that won't shift. And the use of dust-free mercury switches or rugged enclosed snap switches. These are all factors that contribute to high quality controls, controls that will function as precisely after thousands of cycling operations as they did when new.

From your customer's standpoint, this kind of built-in dependability is invaluable. For it safeguards his product investment by protecting against freezing, and relieves him of the worry of a disastrous thaw. Which means more customer satisfaction and better business for you!

We're *sure* when we say Honeywell Controls will cut your refrigeration costs. Just put 'em in—and forget 'em!

For complete information on the entire Honeywell line of refrigeration controls, call your local Honeywell office. Or write the home office—Honeywell, Dept. CR-6-124, Minneapolis 8, Minnesota.

MINNEAPOLIS  
**Honeywell**



*First in Controls*

112 OFFICES ACROSS THE NATION

**John P. Moffitt** as manager of the eastern region; **Maurice Rouede**, southeastern region; **Henry C. Bourns**, central region; **Byrnard E. Egan**, southwestern region; **Joseph R. Lukan**, northwestern region; and **G. G. "Chuck" Winston**, Pacific Coast region. Their headquarters will be at New York, Atlanta, Cleveland, Chicago, St. Louis, and San Francisco, respectively. Refrigeration specialties include room air conditioners, water coolers, dehumidifiers, and beverage coolers.

**Jack Pritchett** has been appointed national sales manager for Friedrich Refrigerators, Inc. In his new position, Pritchett will travel extensively to build up the sales staff of both national and regional distributors.

**Jack Saunders** has been made manager of a new Anaconda sales district to include all of the State of Florida, in one of several sales assignments made recently by Ana-

conda Wire & Cable Co., New York, N. Y. The new district sales office will be located in Tampa, and **Robert W. Carmichael** has been named to work with Mr. Saunders in the new location. **Frank D. Dickey** has been appointed manager of the San Francisco district. He succeeds Lee Hayward, who has resigned. Dickey will be assisted by **Dick Riley**, who has been transferred from the Cincinnati district to the San Francisco district. Other changes include assignment of **Howard Davies** as salesman for the district office in Pittsburgh; and **Thomas F. Jackson's** appointment to the Chicago district office.

**Lewis R. Smith** has rejoined the engineering staff of Acme Industries, Inc. where he will administer and direct a research and development program, and act in an advisory capacity to the sales and engineering sections.

Credited with developing the original Dry-Ex Chiller in 1936-37, Smith also contributed in the development of Acme's Freon condensers, evaporative condensers and coolers, and heat exchangers. He recently resigned from Remington Corp. where he was active in the development of various room air conditioners and served on the engineering committee of the Room Air Conditioning Section of A.R.I.

**Robert P. Zulauf** has been appointed advertising manager for Koch Supplies, Inc. In his new position, he will direct all advertising for the firm. He was formerly associated with the Kansas City Star and Western Auto Supply Co.

Sales of Libbey-Owens-Ford fiber glass insulation and yarns in the Philadelphia trade area are now being handled through LOF's New York office by field representative

*PROTECT AGAINST FREEZE-UP DAMAGE*

**heat-x** WITH

*LIQUID COOLERS*



It's the way they're made that makes the difference. First, separate coils are formed for refrigerant and liquid. These coils are then placed in a mold and molten aluminum poured around them. Result: a solid casting of great strength which protects against freeze-up damage.

The mass of the aluminum block also provides high hold-over . . . eliminates short-cycling . . . eliminates need for a storage tank.

Other advantages of Heat-X liquid coolers: no oil separator necessary, no surge drum necessary . . . cooler will operate in any position.



Request free descriptive bulletins.

**THE HEAT-X-CHANGER CO., Inc.**

BREWSTER - NEW YORK

Circle No. 45 on Reader Service Card



When he's **CONVINCED** . . . . . but not **CLINCHED** . . .



*Be ready to clinch the sale with*  
**COMMERCIAL CREDIT PLAN FINANCING**

**M**OST of your prospects need their working capital and usual lines of credit for *current* operations. To make sure they buy *now* . . . and from **YOU** . . . include **COMMERCIAL CREDIT PLAN** financing in your recommendations. More than 300 offices to serve you nationally. When can we tell you our story? Phone our office in your city or write or wire **COMMERCIAL CREDIT CORP.**, 14 Light St., Baltimore 2, Maryland.

**COMMERCIAL CREDIT**  
**CORPORATION**

A service offered through subsidiaries of Commercial Credit Company, Baltimore . . . Capital and Surplus over \$145,000,000 . . . offices in principal cities of the United States and Canada.



# BIG SALES OPPORTUNITIES ASSURED FOR FRIGIDAIRE COMMERCIAL DEALERS

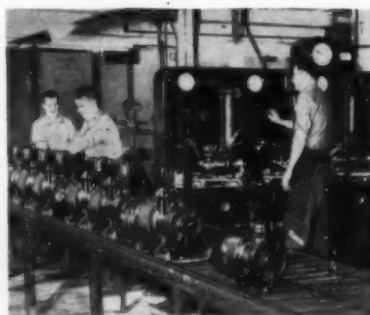


The development and continued improvement of the refrigeration compressor has been the backbone of Frigidaire's growth and expansion right from the beginning... for the compressor is the very heart of almost every single Frigidaire product. The sensational new XD Meter-Miser reflects

engineering and manufacturing know-how gained from two sources. The famous rotary Meter-Miser, proved in millions of household refrigerators... and Frigidaire reciprocating compressors—long the standard of quality and dependability in commercial applications.



Mile-long production line starts with first of many precise machining operations.



End of the line, completed compressors are individually test run before final inspection.

## FRIGIDAIRE

COMMERCIAL REFRIGERATION AND AIR CONDITIONING

—for growth and progress with General Motors

Circle No. 39 on Reader Service Card

### *Huge six-story plant devoted exclusively to commercial compressor production*

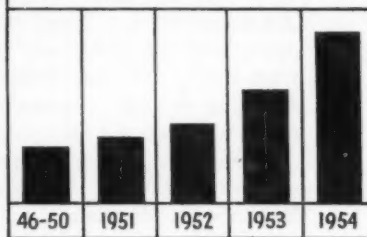
The large, modern plant shown here—87,000 sq. ft. of area, over a mile of production lines—is an example of the important role played by commercial products in Frigidaire operation. This building is used exclusively for the production of the XD Meter-Miser Compressor. It means more and better compressors to meet the growing demand in the field.

Frigidaire will continue to put the major concentration of effort where there



is the greatest opportunity for dealer sales—in packaged products and compressors. It means more complete lines of products, more features, better performance and simplified installation and servicing. This

### PHENOMENAL POST WAR GROWTH



philosophy has paid off in the tremendous growth of Frigidaire's commercial refrigeration business, as shown by the chart. And now, in 1954, Frigidaire is entering an era of still greater activity in Commercial Refrigeration and Air Conditioning.

**Startling improvements**, plans and products are underway that will mean a wide open sales opportunity for dealers from coast to coast.



**James J. Secor, Jr.** Secor's territory was extended to include Philadelphia to fill the vacancy created by the resignation of the former LOF Philadelphia representative, C. F. Moore. Secor joined LOF Fiber Glass in 1953 and has been assigned to the New York office since that time.

**Fred J. Watt** has been named manager of a newly combined section of Worthington Corp.'s Air Conditioning and Refrigeration Div. at the Corp.'s Harrison, N. J., executive offices. Watt will head the new section known as the



central station and ammonia equipment section. The new section is a combination of the ammonia equipment section and the central station equipment section. Since Watt joined Worthington in 1936 to head up the air conditioning for national accounts, he has served as district representative of Worthington's Air Conditioning and Refrigeration Div. in Washington, D. C.; assistant manager of the same division; and product manager of the ammonia equipment section.

**Marechal N. Duncan** has been appointed district office manager for the Berkeley, California territory by Penn Controls, Inc. Duncan replaces E. T. Layport, who resigned from the Penn organization to devote full time to managing the Pacific Control Products at the same address. All warehousing activities connected with the Penn district office have been transferred to Pacific Control Products.



**BUY FROM YOUR  
REFRIGERATION WHOLESALER**

Assignment of three new sales representatives to serve refrigeration wholesalers in the East and Middle West has been announced by Du Pont Co.'s "Kinetic" Chemicals Div. **James O. Wright, Jr.**, has been assigned to the territory including Wisconsin, North and South Dakota, Minnesota, Iowa and eastern Nebraska, with headquarters in Minneapolis, Minn. **Conde B. Keogh** will handle refrigerant sales in the New England and eastern New York district, with headquarters in Albany, N.Y., while

**Aubrey E. Fulford** has been assigned to South Carolina, Florida, and southeastern Georgia, with headquarters in Jacksonville, Fla.

**Howard M. Fitch**, general manager of the Herman Nelson Div., Moline, Ill., has been elected a vice president of American Air Filter Co., Inc., Louisville, Ky. Joining AAF as a sales engineer in 1936, Fitch served as production manager, manager of the legal and

## "I have eliminated the problem of moisture"

122 N. Yale,  
Fullerton, Calif.  
Highside Chemicals Co.,  
10 Colfax Avenue,  
Clifton, N. J.

Gentlemen:

Since I began using Thawzone I have eliminated the problem of moisture when repairing refrigeration equipment.

Being in business alone, Thawzone's quick elimination of moisture problems has given me more time to devote to the other repairs that merit my attention.

This alone, as one can clearly see, saves valuable time and money, so I wish to say, and I'm sure I speak for the other gentlemen in my profession, "Thanks to Thawzone". I remain,

Very truly yours,

*J. B. Clark*

J. B. Clark  
Clark's Refrigeration Co.

### CHECK THESE THAWZONE ADVANTAGES AGAINST ANY OTHER MOISTURE REMOVING METHOD:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> 1. Actually destroys moisture... not a mere anti-freeze.                                 | <input checked="" type="checkbox"/> 5. Does not release moisture when temperature changes.  |
| <input checked="" type="checkbox"/> 2. Scavenges oxygen... the only product that eliminates this corrosion-causing chemical. | <input checked="" type="checkbox"/> 6. May be used in open or hermetic units containing "Freon", methyl chloride, methylene chloride, or isobutane. |
| <input checked="" type="checkbox"/> 3. Cannot cause pressure drop.   | <input checked="" type="checkbox"/> 7. Costs only about 8 cents per lb. of refrigerant treated. Used in minute amounts.                             |
| <input checked="" type="checkbox"/> 4. Cannot clog with oil.   |   |

Why don't you try a 1 oz. bottle of Thawzone? Also available in 4 oz. and pint bottles. Call your wholesaler. Highside Chemicals Co., Clifton, N. J.



## THAWZONE®

The Only Product That Destroys Water  
... and Reaches All of it



"Use Thawzone before or after moisture appears."

patent department, and assistant to the executive vice president, before becoming manager of the Herman Nelson Div. in 1953.

Managerial appointments to the staff of Westinghouse Electric Corp.'s new Air Conditioning Div. include: **William B. Cott**, sales manager; **John L. Ditzler**, engineering manager; **Clifford M. Sayre**, manager of manufacturing;

**Charles E. Smoyer, Jr.**, manager of accounting; **Harold L. Goehring**, industrial relations manager; and **John C. Feick, Jr.**, purchasing agent. Many of those named held similar posts in the air conditioning department of the Sturtevant Div. which was recently set apart as a separate division of the company.

**BUY FROM YOUR  
REFRIGERATION WHOLESALE**

**Edward R. Walsh, Jr.**, has been elected vice president in charge of sales of Yorktowne Machine Co., Inc., manufacturers of Yorktowne Water Savers, according to an announcement of the board of directors.



Walsh will direct the setting up of distribution organization for this new type of evaporative condenser. He has had a long experience in the air conditioning and refrigeration field, having been associated with York Corp. for 15 years in various sales and market research capacities. Besides developing distribution on the new product, Walsh will be in charge of engineering several new pieces of air-conditioning equipment which will have the Yorktowne water saver built-in as an integral part of the equipment.

**I. J. Adams** has been appointed factory sales representative for Jordan Refrigerator Co., in the state of Ohio. He will handle both the domestic and commercial lines for the company. Adams was formerly divisional manager in Columbus for the Westmorland Sterling Div. of Alcoa.

**A. J. Dirksen** has been appointed director of sales development for American Potash & Chemical Corp. Dirksen, who joined American Potash early in 1953, has been acting as eastern representative of the company's sales development department. With his new duties, he will be responsible for planning and carrying out the corporation's sales development and market research program under direction of Daniel S. Dinsmoor, vice president in charge of research and development.

**Lee A. Clark**, assistant general sales manager for Frigidaire Div., General Motors Corp. since 1943 has retired. Clark joined Frigidaire

**NEW ... THE  
UNI-BAR**

**LINE OF DIRECT DRAW  
DRAFT BEER SYSTEMS**

**64 KOLD-DRAFT**

**NEWLY DESIGNED**

**COMPLETELY MODERN**

**A NEW HIGH IN EFFICIENCY**

**SHOWN:  
UNI-BAR  
MODEL 2D**

\* Trademark  
Reg. U.S. Pat. Off.  
Copyright, 1954  
Uniflow Mfg. Co.

**THE NEWEST - MOST  
ADVANCED - AND MOST EFFICIENT DIRECT DRAW  
DRAFT BEER DISPENSING SYSTEM EVER OFFERED**

**FEATURING: THE UNI-BAR  
TAP CONTROL CENTER**

This new tap box is the most efficient control center of any direct draw system ever designed. A sure money maker for you!

At a competitive price

Available: in two keg (stores and cools a third keg) and 3 keg models (stores and cools a fourth keg) in beautiful baked on tavern brown finish or stainless steel—for remote hook up or self contained—with or without bartop—with or without bottle cooling and storage section

Write Today For Complete Information, Prices and Literature

A product of the  
**UNIFLOW MANUFACTURING CO.**  
EAST LAKE ROAD, ERIE, PA.



## MUELLER BRASS CO.

### deluxe drier . . . the one that covers all bases

#### THE ONE PROVED BY 3,000,000 IN SERVICE

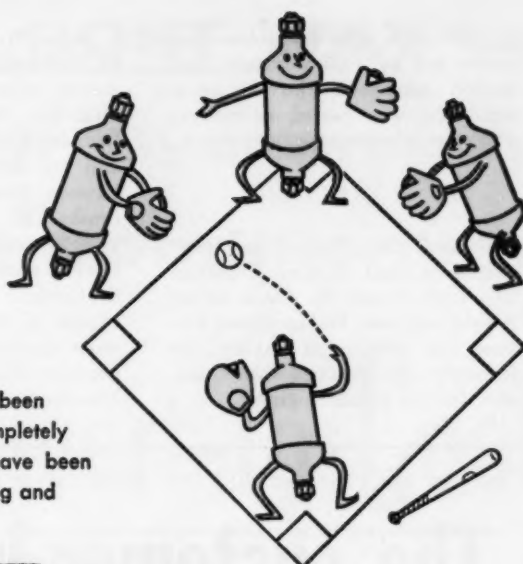
1st

Three million Mueller Brass Co. Deluxe Driers have been installed in commercial refrigeration systems. The completely satisfactory service they have given wherever they have been used is certain proof of the thoroughly effective cleaning and drying job they do.

#### THE ONE WITH THE EXCLUSIVE CONE SCREEN FILTER

2nd

The cone screen filter of Mueller Brass Co. Deluxe Driers is a patented filter-strainer unit filled with chemically cleaned pure wool. And the filter area has been increased 30%, providing a cleaning capacity approximately seven times that of the usual disc.



#### THE ONE THAT REALLY REMOVES MOISTURE AND ACIDS

3rd

. . . AND ALWAYS HAS! PA 400 Super Silica Gel, a new, more effective desiccant in Mueller Brass Co. Deluxe Driers, provides up to 98% more drying capacity. In addition, PA 400 not only removes moisture that may cause formation of acids in a system but also removes these acids if they are already present prior to the installation of the drier.

**THE HOME OF MUELLER BRASS CO. DELUXE DRIERS . . .** the large, modern plant in Port Huron, Michigan. Mueller Brass Co. was one of the pioneers in the development of reliable refrigeration and air conditioning equipment. Complete laboratory, research and manufacturing facilities insure the production of valves, driers, fittings and copper tube bends and coils to the highest standards of quality.

HOME



Driers and Filters



Wrot Copper Fittings and Copper Tube



Flare Fittings



Liquid Indicators



Valves



Write today for big, new Streamline Refrigeration Products Catalog . . . just released!

**MUELLER BRASS CO.** PORT HURON 10, MICHIGAN

Circle No. 42 on Reader Service Card

and AIR CONDITIONING • JUNE, 1954

in 1929 as a sales promotion specialist and by 1933 was sales promotion manager. Shortly afterwards he was named advertising and sales planning manager.

**Russell M. Hagan** has been named to head Airtemp Construction Corp.'s new St. Louis office. A field engineer, Hagan joined Airtemp last January at Dayton. He formerly was affiliated with Condair, Inc., as a sales engineer.

**John M. Harris and William O. Corfield** have been appointed district sales managers for Ebco Mfg. Co. Harris is in charge of Oasis and Kelvinator water cooler and air drier sales in southern Illinois, Missouri, Kansas and Nebraska. He will also handle Kelvinator water cooler and Air Drier sales in western Tennessee. William O. Corfield has been placed in charge of Oasis and Kelvinator water cooler and Air Drier sales in northern Illinois, Iowa, Wisconsin, Minnesota and the Dakotas.

**A. J. DeFino** has been elected a vice president of Fedders-Quigan Corp. He will continue to manage the company's room air conditioner, automotive, heating, condenser, and defense manufacturing operations.

**Robert H. Friedel** has been appointed regional manager in charge of the northern and southern California and Arizona sales regions for Airtemp Div., Chrysler Corp. Friedel succeeds Everett Ham, who will now handle special sales assignments in the Pacific Northwest area. Connected with the home appliance and equipment industry since 1919, Friedel was formerly New York regional manager of Airtemp, after which he was director of residential air conditioning for the United States. Prior to joining Airtemp, he served as special sales representative and factory sales manager for General Electric Co.



Promotion of **William L. Whitcomb** to the position of advertising manager of Glass Fibers Inc., has been announced by R. W. Capaul, vice president and general sales manager of the company. He had formerly been assistant to the advertising manager. Previous to this Whitcomb had been advertising manager of Weis Mfg. Co., Monroe, Mich., and with Owens-Corning Fiberglas Corp. as assistant to the advertising manager and as supervisor of advertising, administrative and sales budgets.

**Earl Palmer** has been appointed national sales promotion manager by Airtemp Div. of Chrysler Corp. Palmer for the past two years has held the post of Washington, D.C., regional manager. He originally joined Chrysler Airtemp's sales division in 1948 as district representative for Virginia, Maryland and District of Columbia.

# The customer knows you're using the best when you use a C-D motor-starting capacitor.

Next time insist on C-D capacitors. The preferred line among experienced repair men.

Write for your copy of C-D's famous motor capacitor manual and catalog. Dept. CR-64

Cornell-Dubilier Electric Corp., South Plainfield, N. J.

PLANTS IN SOUTH PLAINFIELD, N. J.; NEW BEDFORD, WORCESTER AND CAMBRIDGE, MASS.; PROVIDENCE AND HOPE VALLEY, R. I.; INDIANAPOLIS, IND.; SANFORD AND FUQUAY SPRINGS, N. C.; AND SUBSIDIARY, THE RADIART CORP., CLEVELAND, OHIO.

**There are more C-D capacitors in use today than any other make.**

Circle No. 43 on Reader Service Card





# NOW...A LOW COST WAY to Convert Warm Air Systems to Year-Round Air Conditioning



**HOW CONVERT-TO-COOL WORKS:** The Typhoon cooling coil is placed right on top of an existing furnace and connects into present ductwork. The refrigerating unit (a small package about 3 feet square) is located in a convenient spot outside the living area. It's easy to install. . . and you'll sell and service cooling only.

**Tremendous New Market** Over 11 million homes throughout the country have warm air furnaces. Every one is a hot prospect for Convert-to-Cool!

**Air-Cooled** Eliminates water supply and drainage problems and extra plumbing costs. Assures operation during water shortage!



TODAY—wire,  
phone, or use  
the coupon for  
full details!

**TYPHOON AIR CONDITIONING CO., INC.**  
794 Union Street • Brooklyn 15, New York

*Specialists in Air Conditioning Since 1909*

Circle No. 44 on Reader Service Card

and AIR CONDITIONING • JUNE, 1954

Typhoon Air Conditioning Co., Inc.  
794 Union Street, Brooklyn 15, N. Y. C-5

I'm interested in selling the Typhoon Convert-to-Cool system. Please rush full details.

NAME \_\_\_\_\_

FIRM \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_

You'll not flare up  
when you flare...



... REVERE

# DRYSEAL

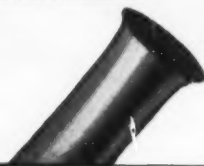
## COPPER REFRIGERATION TUBE

When you flare DRYSEAL for compression fittings you'll save your temper and your time. It's because of the special temper and ductility. Bending dead-soft DRYSEAL is equally easy . . . do it by hand . . . no tools of any kind are needed. And when you get your DRYSEAL take a squint at those double-crimped ends. This is the final step in manufacturing, that immediately follows a special cleaning and dehydrating operation, which keeps dirt and moisture from entering the tube.

The seal is made in such a way that it does not change the diameter of the tube. This makes it possible to pass the tube through any opening large enough for the tube itself. Economical tube sizes range from  $\frac{1}{8}$ " to  $\frac{3}{4}$ " O. D.

In addition the DRYSEAL carton, has been attractively designed for easy identification in stock. It contains one 50-foot coil of DRYSEAL . . . is easier to handle, light weight, economical and is sturdily made to assure protection of the tube.

NO SPLITTING WHEN YOU  
FLARE DRYSEAL



IN THE EASY-TO-HANDLE  
NIFTY-FIFTY...ONE COIL CARTON

**REVERE**  
COPPER AND BRASS INCORPORATED  
Founded by Paul Revere in 1801  
230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y. Sales Offices in Principal Cities, Distributors Everywhere.

SEE "MEET THE PRESS" ON NBC TELEVISION, SUNDAYS

# Aerofuse Diffusers..

... installed at the vital point  
of air delivery in the nation's first  
aluminum skyscraper... **ALCOA BUILDING**

TYPE D AEROFUSE DIFFUSERS AS INSTALLED IN ALCOA



In the heart of Pittsburgh's Golden Triangle, the gleaming Alcoa Building rises thirty floors, a dramatic new concept in multi-story building design and construction. In Alcoa, as in other outstanding buildings from coast to coast — where the efficient performance and attractive appearance of air distribution equipment must meet rigid engineering and architectural specifications — Aerofuse Diffusers were selected for installation at the *vital point of air delivery*.



**TUTTLE & BAILEY inc**  
NEW BRITAIN, CONNECTICUT

Circle No. 46 on Reader Service Card

# PROTECTION

LOW COST

Stops HIGH-COST  
damage in...



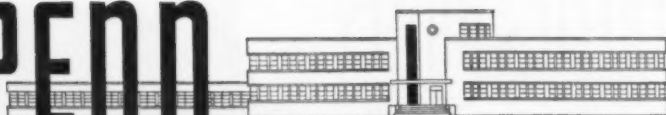
## pressure-lubricated REFRIGERATION COMPRESSORS

Slow pickup of oil pressure at the start of a cycle . . . or, low lube oil pressure during the running cycle . . . *can happen* in any pressure-lubricated compressor. And, when it does, seals and bearings are in serious danger.

To prevent such high-cost damage and loss of operating time, *use the Penn Series 275 Oil Protection Control with built-in Time Delay Switch!* Then, anytime subnormal oil pressure occurs, this control *automatically* stops compressor from operating *beyond* the predetermined safe period.

Learn more about this low-cost protection for pressure-lubricated compressors and equipment. Ask your wholesaler or write **Penn Controls, Inc., Goshen, Indiana.** Export Division: 13 E. 40th Street, New York 16, N. Y., U.S.A. In Canada: Penn Controls Limited, Toronto, Ontario.

# PENN



## AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES  
Circle No. 47 on Reader Service Card



## READERS SERVICE CARD

NEW IDEAS...NEW FACTS...NEW CATALOGUES  
NEW PRODUCT INFORMATION

Please send me additional information and literature on items circled below.

1	11	21	31	41	51	61	71	81	91	101	111	121	131	141	151	161	171	181	191
2	12	22	32	42	52	62	72	82	92	102	112	122	132	142	152	162	172	182	192
3	13	23	33	43	53	63	73	83	93	103	113	123	133	143	153	163	173	183	193
4	14	24	34	44	54	64	74	84	94	104	114	124	134	144	154	164	174	184	194
5	15	25	35	45	55	65	75	85	95	105	115	125	135	145	155	165	175	185	195
6	16	26	36	46	56	66	76	86	96	106	116	126	136	146	156	166	176	186	196
7	17	27	37	47	57	67	77	87	97	107	117	127	137	147	157	167	177	187	197
8	18	28	38	48	58	68	78	88	98	108	118	128	138	148	158	168	178	188	198
9	19	29	39	49	59	69	79	89	99	109	119	129	139	149	159	169	179	189	199
10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200

Send More Information On:

PLEASE PRINT

Name.....

Company.....

Street.....

City.....

Position.....

Kind of Business.....

State.....

Zone.....

JUNE, 1954 do not use after 9-15-54

## READERS SERVICE CARD

NEW IDEAS...NEW FACTS...NEW CATALOGUES  
NEW PRODUCT INFORMATION

Please send me additional information and literature on items circled below.

1	11	21	31	41	51	61	71	81	91	101	111	121	131	141	151	161	171	181	191
2	12	22	32	42	52	62	72	82	92	102	112	122	132	142	152	162	172	182	192
3	13	23	33	43	53	63	73	83	93	103	113	123	133	143	153	163	173	183	193
4	14	24	34	44	54	64	74	84	94	104	114	124	134	144	154	164	174	184	194
5	15	25	35	45	55	65	75	85	95	105	115	125	135	145	155	165	175	185	195
6	16	26	36	46	56	66	76	86	96	106	116	126	136	146	156	166	176	186	196
7	17	27	37	47	57	67	77	87	97	107	117	127	137	147	157	167	177	187	197
8	18	28	38	48	58	68	78	88	98	108	118	128	138	148	158	168	178	188	198
9	19	29	39	49	59	69	79	89	99	109	119	129	139	149	159	169	179	189	199
10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200

Send More Information On:

PLEASE PRINT

Name.....

Company.....

Street.....

City.....

Position.....

Kind of Business.....

State.....

Zone.....

JUNE, 1954 do not use after 9-15-54

## OPINIONS-REPORTS

back in the news again. On April 15, Joyce and Mrs. Ray Mullis, were found suffocated in the Base, Utah. Let's not allow a repetition of the ves were snuffed out in this way. Alert your own ipment of all types—refrigerators, chests, trunks them harmless by removing the lock, hinges, or our town to sponsor legislation making it unlaw-safety measures. Hundreds of cities and nearly the child whose life you save may be your own.

more evenings at home, according half the families interviewed said ne. About one-fifth said they did aid they didn't attend as many air-

a more water we're using today than we did 50 U. S. represented between 500 and 600 gallons bled our population within the past half-century, per day, a four-fold increase in the same period. ie 1950 water withdrawal for all purposes was ately 15% of the total water discharged to the

ited States as an aid in surgery to n Europe, particularly in France. girard Hospital in Paris, where rigerants in tubes wrapped around d with hot baths or drugs.

sing birth rates and loss of land to industrial F. W. Went, professor of plant physiology at ar conditioning can double the amount of the 60 tons to the acre can be expected without atological factors through simple, but important, litioning — relative humidity, light intensity, nts of recirculated and outdoor air — are in-

l use of refrigeration and air con- on and Air Conditioning Trades ver potential and food production n and air conditioning figuring rring facilities in India are limited ust be imported.

# PROTECTION

LOW COST

Stops HIGH-COST  
damage in...



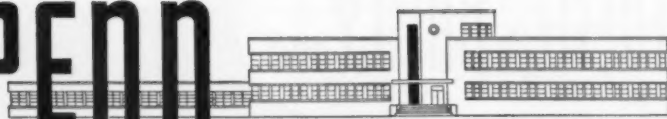
## pressure-lubricated REFRIGERATION COMPRESSORS

Slow pickup of oil pressure at the start of a cycle . . . or, low lube oil pressure during the running cycle . . . *can happen* in any pressure-lubricated compressor. And, when it does, seals and bearings are in serious danger.

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Learn more about this low-cost protection for pressure-lubricated compressors and equipment. Ask your wholesaler or write **Penn Controls, Inc., Goshen, Indiana.** Export Division: 13 E. 40th Street, New York 16, N. Y., U.S.A. In Canada: Penn Controls Limited, Toronto, Ontario.

# PENN



## AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

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# IBNU'S

## TRENDS · OPINIONS · REPORTS

**THE ABANDONED REFRIGERATOR** death-trap is back in the news again. On April 15, Joyce and Donna Mullis, the small daughters of Staff Sgt. and Mrs. Ray Mullis, were found suffocated in the icebox of an unoccupied barracks at Hill Air Force Base, Utah. Let's not allow a repetition of the 1953 tragedies, when more than a score of young lives were snuffed out in this way. Alert your own community to be on the lookout for abandoned equipment of all types—refrigerators, chests, trunks—that might possibly be death-traps. Then render them harmless by removing the lock, hinges, or doors. Make it a city-wide project. Better yet, get your town to sponsor legislation making it unlawful to abandon such equipment without taking these safety measures. Hundreds of cities and nearly a dozen states now have such legislation in force. The child whose life you save may be your own.

**EIGHT OUT OF TEN** persons with air conditioned houses spend more evenings at home, according to a recent survey reported by *House & Home* magazine. About half the families interviewed said they not only had better appetites, but also ate more meals at home. About one-fifth said they did more entertaining at home after air conditioning, and two-fifths said they didn't attend as many air-conditioned movies as before.

**HERE ARE SOME FIGURES** which indicate how much more water we're using today than we did 50 years ago. Per capita use of water in 1900 in the U. S. represented between 500 and 600 gallons withdrawn daily from wells and streams. We've doubled our population within the past half-century, but per capita water use has grown to 1100 gallons per day, a four-fold increase in the same period. According to a U. S. Geological Survey estimate, the 1950 water withdrawal for all purposes was about 170 billion gallons a day—equal to approximately 15% of the total water discharged to the sea during an average year.

**REFRIGERATED ANESTHESIA**, used for several years in the United States as an aid in surgery to reduce post-operative shock, is now being employed increasingly in Europe, particularly in France. A special "hibernation chamber" is now in operation at the Vaugirard Hospital in Paris, where patients have their temperatures lowered by the circulation of refrigerants in tubes wrapped around their bodies before surgical operation. Afterwards they are revived with hot baths or drugs.

**WE WON'T RUN OUT** of food, despite rapidly rising birth rates and loss of land to industrial sites, if we let air conditioning help agriculture. F. W. Went, professor of plant physiology at California Institute of Technology, calculates that air conditioning can double the amount of the present highest production, and average yields of 160 tons to the acre can be expected without greatly increasing production costs. Control of climatological factors through simple, but important, modifications in present general practices in air conditioning—relative humidity, light intensity, germinating and transplanting temperatures, and amounts of recirculated and outdoor air—are involved in the experiment and study.

**INDIA'S FIVE-YEAR PLAN** opens great possibilities for expanded use of refrigeration and air conditioning equipment. E. A. Bertsch, president of the Refrigeration and Air Conditioning Trades Association of Bombay, declared in a recent address. Electric power potential and food production are important factors in the five-year program, with refrigeration and air conditioning figuring importantly in protecting the extra food supplies. Since manufacturing facilities in India are limited today, most of the equipment needed for these new applications must be imported.

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# PROT



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FOR HEATING, REFRIGERATION, AIR CONDITIONING



# IBNU'S

## TRENDS · OPINIONS · REPORTS

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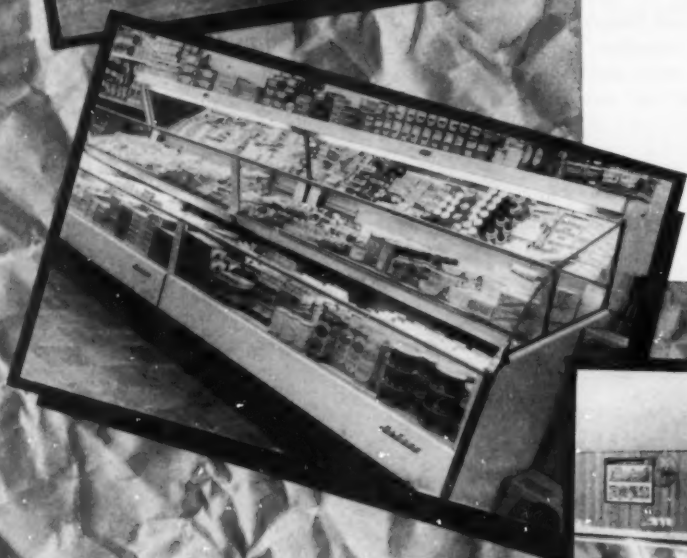
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**Supermarket jobs pay off  
in prestige and future sales  
as the smaller independents play . .**

***FOLLOW***



**PLENTY OF PRESTIGE**, resulting in many future sales to smaller stores, resulting from this \$22,000 installation made by Baubie in Black's Finer Foods supermarket. Included in the job, some of which is pictured above, were 19' of service meat case, 8' of self-service meat case, 12' of self-service dairy case, 24' of open self-service frozen food case, and two walk-in coolers, one for meat and one for produce. Complete shelving and check-out counter installation also was provided.

*In our April issue we published an article titled "Piece By Piece" which told why Tom Parish, a commercial refrigeration dealer in Benton Harbor, Mich., preferred to shy away from complete supermarket installations and concentrate on those smaller stores where he could sell fixtures a few at a time. In the article on these pages, another successful dealer explains his stand on the opposite side of the fence.*

## THE LEADER

"SELL one good supermarket installation, and you're sure to find that a number of smaller food store jobs will follow, with hardly any sales effort at all. That's why it pays to go after these supermarket jobs, even at a lower margin of profit."

That's W. F. Baubie speaking. He's the head of Baubie Refrigeration, McCray dealer in Jackson, Mich. And he pulls folder after folder from his voluminous sales files to back up his contention that supermarket installations pay off big in prestige — and future sales — as the smaller merchants evidence a natural tendency to "follow the leader."

"This is a direct reversal of the thinking that used to exist in the food market field," says Baubie. And he should know, for he spent a number of years as a salesman for one of the large food companies before switching over to the refrigeration business.

"When the supers first started making their inroads in the food merchandising picture," he explains, "the smaller merchants were almost universally either suspicious or resentful. Many of them would go to great lengths not to use the same equipment or methods employed by the supermarkets."

"Now, however, since the supers have become so firmly established as an outstandingly successful merchandising medium, the tendency is exactly in the other direction. The smaller stores, realizing that the supermarkets have proved the success of their methods, ape them in every way they can, including the selection of equipment."

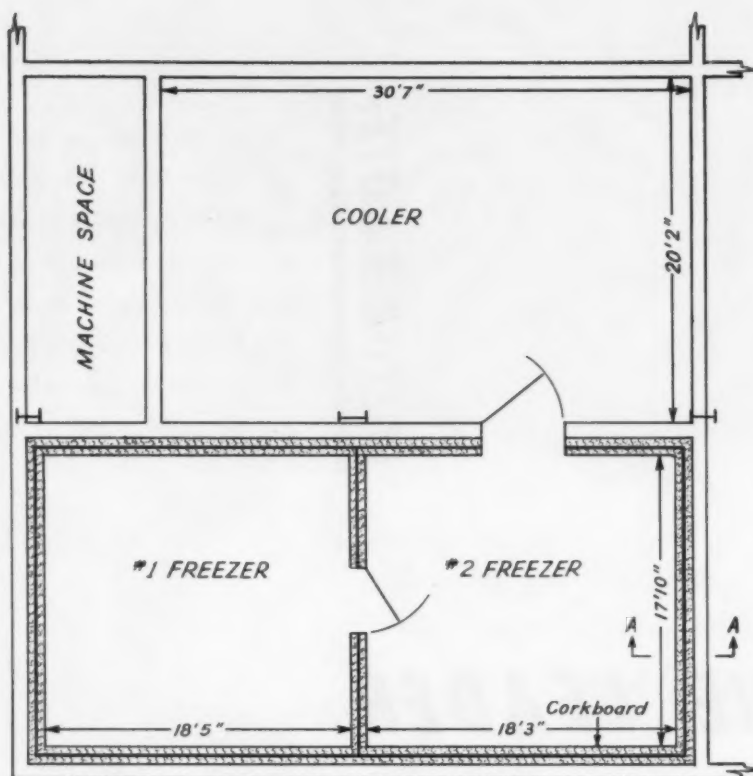
"There's another angle to this situation, too," Baubie points out. "A great many of the new small markets which are being opened today are operated by people who formerly were employed by one of the large supermarkets. Naturally they base their own operations on their previous experience. So if the super in which they worked used a certain make of equipment, it's a pretty sure bet that they'll want that same line of fixtures in their own store when they set up shop for themselves."

"That's why we'd gladly take a good supermarket job at a mark-up as low as 2½% plus installation, if we had to, knowing that the prestige it built up for us would eventually pay off in future sales to smaller stores."

"Actually, we've never had to pare our margins that low in order to get the business. We have managed to sell all of our supermarket installations at approximately a 10% mark-up, plus another 2½% for installation. But don't make any mistake about it," Baubie emphasizes, "we value that kind of installation so highly that we would pare the mark-up if necessary."

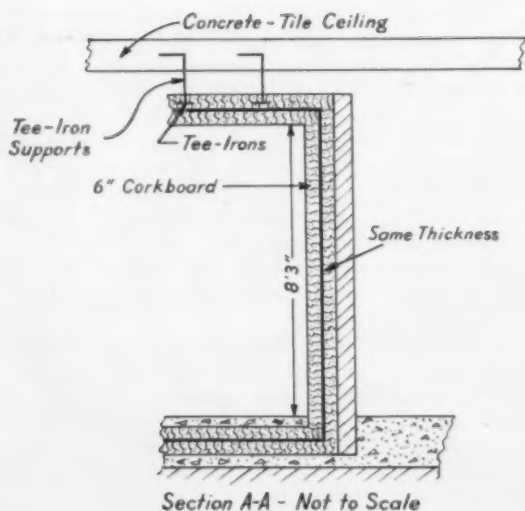
"We'd do this," he explains, "not only to promote future sales for ourselves, but also to keep our competition from getting their equipment into one of these supermarkets and thus gaining an entering wedge which would provide them, instead of us, with the inside track on those smaller jobs which would be sure to follow."

**PLANNING** for future expansion, the Washington Grocers Association constructed two cold storage rooms, one to be used as a cooler and one as a freezer, but insulated both for economical operation as freezers. An adjoining floor area, presently used only for general storage, was insulated for future use as a cooler. When expansion is required, the two smaller rooms will both be operated as freezers, and a new cooler can be constructed over the insulated floor. The sectional view A-A (below) shows details of the method of erecting the insulation.



A practical way to provide

## Expandable Cold Storage Space



IT'S good business to plan ahead for future cold storage requirements. Such planning invariably pays off in a far more economical building program as well as a better organized flow of goods entering and leaving the plant.

Many contractors have had the experience of engineering a food storage installation to meet the customer's specific requirements based on his needs at the time of installation, only to find that a few months later the customer's requirements have expanded sufficiently to make the original installation completely inadequate.

A large warehouse recently constructed in Meadowlands, Pa., by the Washington Grocers Association was planned in such a way as to not only satisfy immediate needs but also to provide for anticipated future expansion. A plan such as this makes it possible for businessmen in the food storage field to build whatever facilities are economically feasible at the moment, and at the same time provide for an integrated ware-



## **Insulating additional space when the warehouse is erected saves time and money when more refrigerated area is needed**

house setup when and if expanded facilities are required.

By pointing out the wisdom of such a common-sense construction program, the alert refrigeration contractor can make himself many friends among his food storage customers.

The warehouse of the Washington Grocers Association serves as a central distribution point for most of the retail grocers in surrounding Washington County, as well as Greene, Fayette, and Allegheny Counties. Immediate requirements dictated the erection of one cooler and one freezer. Within the next several years, however, anticipated expansion should double these facilities.

With an eye toward the future, the Association constructed two 20 x 20' cold storage rooms, one to be used as a freezer and one as a cooler. Both of these rooms, however, were insulated for future use as freezers. At the same time, an adjoining 30 x 20' floor area was insulated for cooler use, and the finish concrete wearing floor was installed in this area, flush with the floor in the two refrigerated rooms.

This additional area is used at the present time for general bulk storage. When future expansion occurs, however, both of the refrigerated rooms can be operated as freezers and the supplementary space can be converted into a normal temperature cooler simply by adding insulation to the walls and ceiling, without disturbing the floor area.

One-level floors on the interior and exterior of the cold storage rooms were provided by recessing all of the floor insulation.

The entire on-grade floor area of both freezer rooms is ventilated as inexpensive insurance against possible frost heavage. Drain tiles, equally spaced under the concrete subfloor of these rooms, permit natural circulation of warm air, as one end of each tile row is elevated above the other.

Freezer No. 1, now operating at 36 F, is used as a cooler for cheese, margarine, packaged luncheon meats, and similar goods. It is insulated with 6" of corkboard throughout, with the exception of the two outer sun walls in which 8" of corkboard insulation is used.

Freezer No. 2, now operated at zero F for the storage of seafoods, fruits, vegetables, and other frozen produce, is insulated in the same manner as Freezer No. 1. The floor area for the future cooler is insulated with two layers of 2" corkboard.

The Washington Grocers Association has used its 14 years of operating experience well in planning its cold storage facilities to provide for future as well as current requirements. Lessons learned from this installation could save time, money, and plenty of headaches for other operators of refrigerated warehouses — and the contractors who equip them.

*(Material for this article was made available by Armstrong Cork Co.)*



**MERCHANDISE** is moved into the room now being operated as a cooler. The floor area in the foreground has been insulated with 4" of corkboard although it presently is being used only for non-refrigerated storage. As the warehouse expands, this area can readily be converted into a refrigerated cooler room without disturbing the level floor.

**ADMIRAL CORPORATION SELECTS**

**MCQUAY 3/8-INCH TUBE RIPPLE-FIN COILS**

**FOR ITS WINDOW**

**AIR CONDITIONING UNITS**

Join the steadily growing list of manufacturers who have selected McQuay evaporator and condenser coils for their window air conditioning units.

Famous Ripple-Fin construction, assuring maximum heat transfer efficiency, is an exclusive feature of McQuay coils.

McQuay offers the proved and preferred line of coils:

- **CONSTRUCTED** with 3/8" copper tubes and aluminum fins.

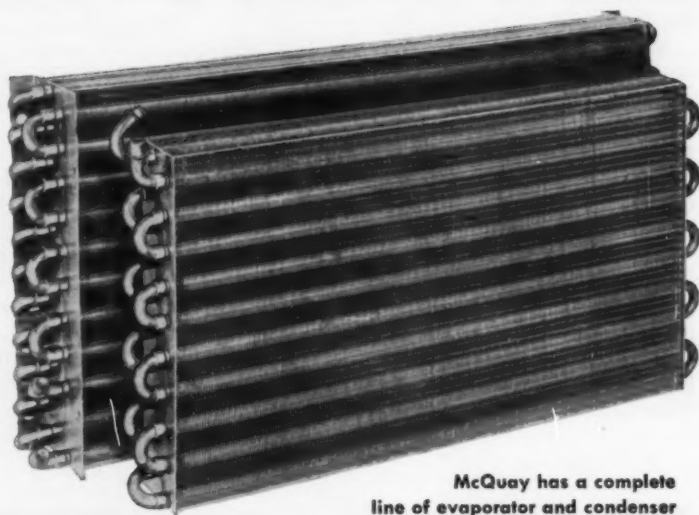
- **WIDE VARIETY** of fin spacings, rows deep, fin heights, finned lengths and circuiting patterns for maximum flexibility in custom engineering to meet specific applications.

- **STAGGERED TUBES** and continuous corrugated fins with full fin collars for maximum heat transfer.

- **RIPPLE-FIN EDGES** for greater strength and more pleasing appearance.

- **LATEST PROCEDURES** for cleaning, degreasing, dehydrating, and sealing of coils for shipment, insuring maximum protection.

- **COIL CONSTRUCTION** approved by Underwriters Laboratory for use as evaporators or condensers with either Freon-12 or Freon-22.



McQuay has a complete line of evaporator and condenser coils for many applications.

**THE PROVED AND**

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Write McQuay Inc. for engineering assistance on any coil problem.

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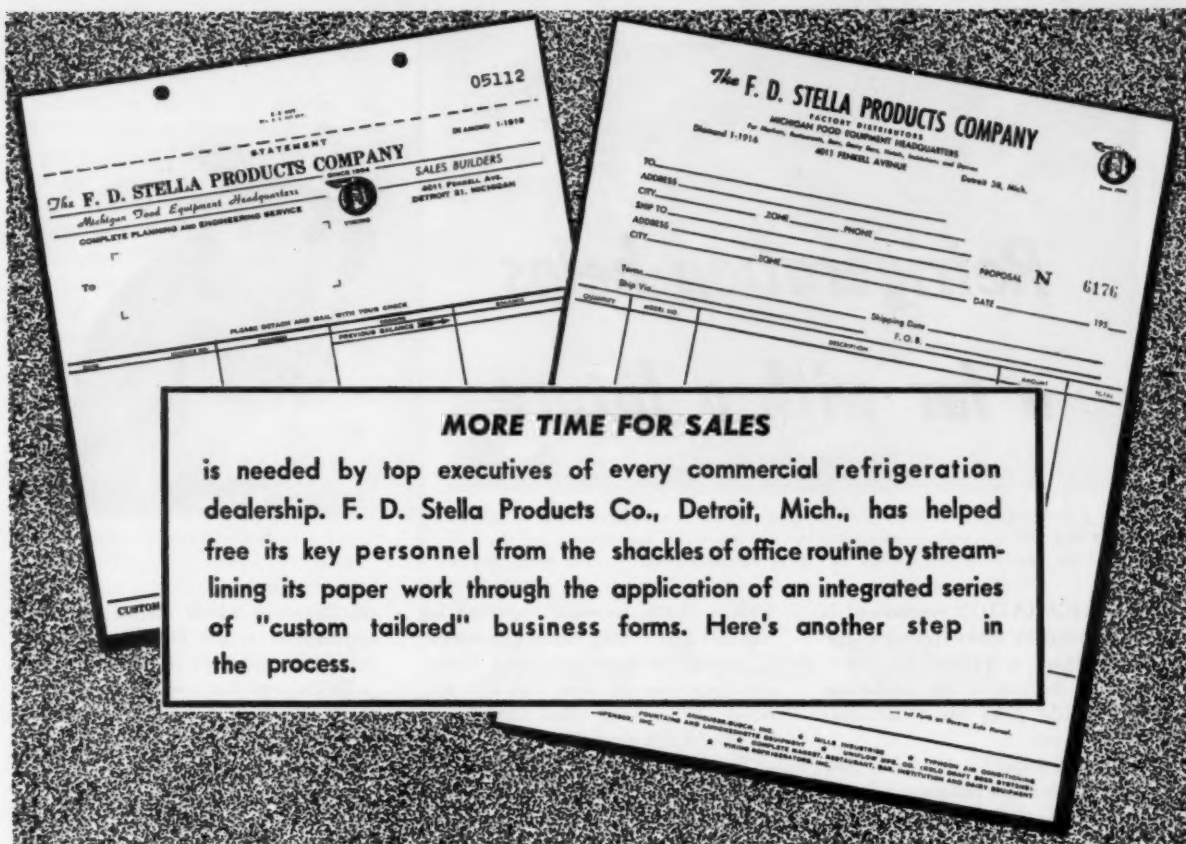
**McQuay INC.**



**AIR CONDITIONING  
REFRIGERATION  
HEATING**

Circle No. 48 on Reader Service Card  
JUNE, 1954 •

**COMMERCIAL REFRIGERATION**



## Job Proposal Covers All Contingencies

A PROPOSAL outlining all pertinent facts involved in the sale is signed by the customer. This proposal form stipulates plainly that title to the property concerned remains with the seller until the terms of payment have been met in full. Other important conditions to which this proposal is subject are as follows:

- (1) All risk of damage to, or destruction or loss of material after delivery, are assumed by the purchaser.
- (2) Alterations or allowances are not honored except when consented to in writing.
- (3) A clause covering failure to perform due to conditions beyond control of the F. D. Stella Products Company, such as acts of God, is set forth.
- (4) A guarantee that materials shall be of good quality and that work shall be done in a neat and workmanlike manner is included.

All of these conditions are imprinted on the back of the proposal form.

The proposal, duplicate shipping tickets and duplicate invoices become a permanent part of the customer's record. We maintain a pendaflex file system which is both flexible and durable.

Once a customer has been invoiced, a permanent statement file is established for him, which is kept until the account is paid off in full. Machine posting charges or credits the customer's account on this statement whenever necessary.

The original statement is mailed to the customer, while the duplicate is kept in the permanent statement file. This allows a continual analysis of the accounts standing without reference to any detail file. A third copy is available for our collector to aid him in following up delinquent accounts.

*"Permanent statement file allows continual analysis of accounts standing."*

## *Refrigeration helps a fur with a future*



**R**EFRIGERATION equipment is helping to make possible the expansion of a relatively new American enterprise, the marketing of chinchilla pelts on a national basis this year.

Nobody needs to be told how valuable chinchilla pelts are. At the headquarters of the National Chinchilla Breeders of America in Salt Lake City, the influx of thousands of dollars worth of the pelts (15 to 20 a day during warm weather,

with a sharp increase expected in the fall and winter months) created a critical storage problem. Complicating this problem was still another one — acute space limitations on the NCBA premises.

Two distinct ranges of temperature, it was decided, were desirable for best results. One was needed for the storage of acceptable pelts; the other was needed to “quarantine” new batches of pelts before storage.

The basic problem was to obtain

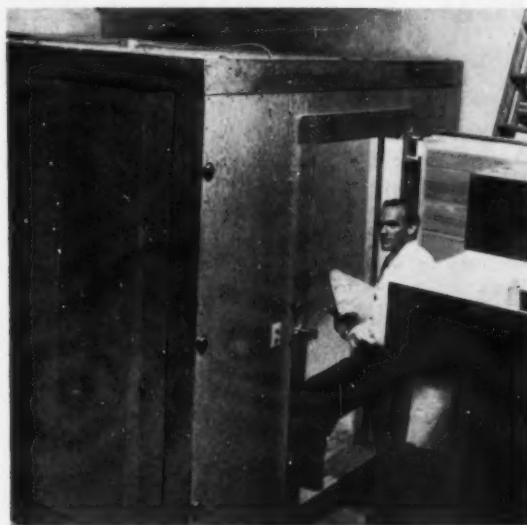
refrigeration which would prevent spoilage or grease burn as well as infestation through insect parasites.

To be sure that new shipments of chinchilla pelts were not introducing moths or their larvae or eggs into other shipments already in storage, it was decided that the “quarantine” unit would be desirable. Such a unit would maintain constant temperatures at 0 to 5 F.

If these low temperature facilities were not included, it would be



**PUTTING IN ITS PLACE** a wall of the walk-in cooler installed for the National Chinchilla Breeders Association, employees of Moore Butcher Supply Co. fit insulated edges of adjoining sections carefully into position. The 6-inch walls are filled with glass fiber insulation. Nine separate sections, plus the door, were fitted together to make the walk-in unit.



**FIRST LOT OF PELTS** are deposited in the storage vault at NCBA headquarters by Robert Bevan, a staff assistant. Refrigeration equipment powering the walk-in is set to maintain a uniform temperature of 50 F with relative humidity of 50 to 65%. Pelts accepted for marketing are stored here after being “quarantined” for two days at 0 to 5 F to kill insect larvae.



necessary to lower the temperatures periodically in the larger (or general storage) space.

Tests by the U. S. Bureau of Entomology indicate that insect eggs stored at 0 to 5 F will die within one day. Held at 5 to 10 F, the eggs will die by the end of two days; at 10 to 15 F, they die within four days. On the other hand, at temperatures between 20 and 25 F, all of the eggs did not expire until the 21st day of storage.

### **Two-Temp System Used**

After a thorough analysis of the requirements by the Commercial Distributing Co. of Salt Lake City, a two-temperature installation was put in, using a Brunner condensing unit and a Drayer-Hansen "Spasaver" coil. Installation and erection of the equipment was by the Moore Butcher Supply Co. of Salt Lake City.

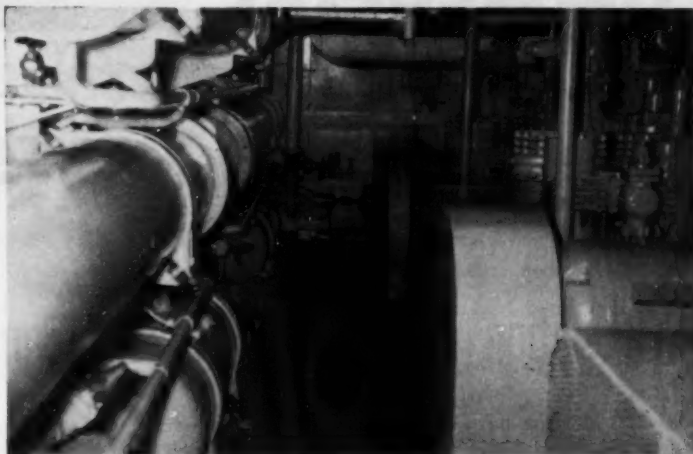
The low-temperature section comprises a 20-cu. ft. chest. All pelts are placed in this section for two days immediately upon their arrival, to assure that all moths or larvae are killed. They are then processed and transferred to the larger storage cooler for holding until shipment to market.

### **Chilling Aids Skinning**

The storage cooler, an 8' x 10' x 8' walk-in unit, is operated at a temperature of 40 F, with relative humidity level at 55 to 65%. This humidity level is generally considered ideal for fur storage. Excessively low humidity, it has been found, tends to cause so-called "splitting" of furs, while too-high humidity (up to 80%, for instance) are likely to produce molds that are injurious to the valuable commodity.

Marketing of the chinchilla pelts is done on a cooperative basis.

Another facet of the chinchilla industry which has long been aided by refrigeration is the killing and skinning of the tiny animals. Immediately after killing, the carcasses are placed in a low temperature enclosure for approximately one hour before skinning. This freezing process insures a cleaner, more even removal of the pelt, and a higher quality, more acceptable product.



**READILY ACCESSIBLE** for service, despite their compact arrangement, are the three 50-hp compressors which provide the necessary cooling for the first refrigerated cargo ships to operate regularly between Miami and Caribbean ports.

## ***Shipping Produce Without Loss***

**F**IRST regular refrigerated cargo service between Miami, Fla., and various Caribbean ports was inaugurated recently when the Cotton Bay of the Three Bays Line sailed from Miami for the Virgin Islands, Aruba, Curacao, Venezuela, Colombia, Panama, and other Latin American countries.

Two sister ships, the Winding Bay and the Ariana, are joining with the Cotton Bay in providing weekly service to ports in these countries. Stops also are made at Jacksonville and Tampa, Fla., and Galveston, Texas.

This is not only the first regular refrigerated cargo service for Miami, but also the first refrigerated ship service designed for the transporting of fresh fruits and vegetables, meats, and frozen foods simultaneously. Refrigeration equipment installed by Carrier Corp.'s marine division makes it possible to provide any desired temperature from sub-zero up at separate levels in three holds.

Three 50-ton Freon direct expansion compressors provide the refrigeration for each of these ships. Two of these compressors are capable of maintaining zero temperatures in all three holds at once, leaving the third compressor available for stand-by. Eight blowers powered by 2-speed, 7-10 hp Star-Kimble motors circulate the cold air through ducts to the holds. Two each are used in the Nos. 1 and 3 holds, and four in the No. 2 hold. The ships are insulated with Johns Manville cellular insulation.

Fifteen 4 x 8' insulated hatch plugs, each 8" thick, are used to cover the hatches at deck level. These covers are made of plywood and are light enough so that they can be handled by one man. After being secured, they are covered with waterproof canvas.

This new service makes it possible to ship fresh fruit into Miami, even on the 8 or 9-day run from Panama, with virtually no loss. The importance of this is emphasized by the fact that when bananas, for instance, have been brought into Miami in non-refrigerated boats losses due to over-ripeness have been reported to be as high as 25% with only 5 days travel.

# COMMERCIAL *Refrigerator* SALES NEWS

## NCRSA Urges Distributors to Aid FTC Action Against Ice Cream Firms

SPECIAL bulletins have been addressed by the National Commercial Refrigerator Sales Association to more than 1,000 distributors of commercial refrigeration equipment, urging their cooperation and active assistance in connection with the hearings scheduled by the Federal Trade Commission in their cases against eight major ice cream companies and their subsidiaries, operating in the United States.

In appealing to distributors to supply all available information and to serve as witnesses if needed, the association stated: "This is a very real opportunity for our industry to constructively support the efforts of the FTC to correct unfair competition."

In March, 1951, NCRSA began its fight to eliminate the competitive practices of dairies and ice cream companies that supply refrigeration equipment at cost, or less, to their dealers as an inducement to handle the dairies' products. Based on details of transactions harmful to its members, the association filed an extensive petition with the commission, requesting an investigation to determine whether such practices violated the Clayton Act.

Similar contentions of "violation" were later filed by other Industry groups, who likewise urged FTC action.

Before investigations conducted by the FTC in several sections of the country were made, interviews were sought with NCRSA's secretarial staff and plans made for coordinating special appeals to their members for assistance when the field investigators visited their territories to seek evidence.

For over three years, the Association continued its efforts to bring

all evidence bearing on the practices to the attention of FTC officials, and worked with them to facilitate field investigations.

The culmination of activities in the charges made by the FTC on Feb. 28 when they cited eight national ice cream companies, is, according to Marie H. Lawton, NCRSA's executive secretary, "Just the beginning. We must continue to actively support the FTC's efforts if these harmful practices are to be eliminated."

The association will coordinate and submit to Lyna C. Paulson, the commission's attorney who will present FTC's case at the hearings, all additional evidence supplied by the members and non-members they contacted.

### WHOLESALE DISTRIBUTORS SHOW 7% SALES RISE

A 7% increase in wholesale distributors' sales of commercial refrigeration equipment for the first two months of 1954, as compared to the same period in 1953, is reported by the U.S. Dept. of Commerce in its wholesale trade report on sales and inventories for February.

This report, which presents sales figures of wholesale distributors in all lines of merchandise, indicates that distributors of commercial refrigeration equipment and parts are running well ahead of firms handling other lines, with wholesalers of automotive supplies, electrical supplies, hardware, industrial supplies, plumbing and heating, and lumber and building materials all reporting sales declines ranging from 1 to 15% for the two-month period. Cumulative wholesaler sales in all lines were 4% below the corresponding period of last year.

### DISTRIBUTORS JOIN NCRSA

Two more distributors of commercial refrigeration equipment have joined the ranks of the National Commercial Refrigerator Sales Association. These two new distributor members are: Kiesel's Co., Salina, Kans.; and Arthur L. Stone Co., Erie, Pa.

## Industry Leaders Believe 1954 Volume Could Top 1953 Sales Figures

TOP management and sales executives of the commercial refrigerator industry attending the annual spring meeting of the Commercial Refrigerator Manufacturers Association in Chicago, took a searching look at 1954 prospects and pronounced them good.

Industry sales in the first quarter exceeded 1953 by nearly 11%, according to the individual members' monthly reports to the Association.

Although fully aware of recessionary trends in some lines, the delegates were strongly of the opinion that there is enough good business in sight to warrant their conclusion that 1954 may very well

exceed all previous years in volume, with the possible exception of 1950. Sales of the industry in 1953 were 11.9% ahead of 1952, but fell short of 1950's record-breaking output by some 12%.

Conditions among the industry's dealers were surveyed and reported to be excellent, with the majority continuing to apply sound business methods. Inventories of equipment on dealers' floors were said to be uniformly low, and therefore, favorable.

In fact, one of the discussion leaders congratulated manufacturers generally for their "commendable restraint" in refraining from over-

# How do you sell refrigeration

to the prospect who says . . .

## "I JUST CAN'T AFFORD IT"

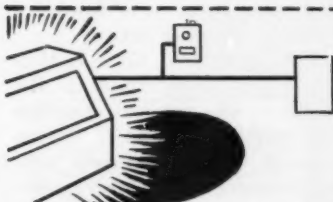
**Here's how!**



**1.** Understand his problem. He pays his supply bills daily . . . there just isn't enough money at the end of the month to make lump-sum payments.



**2.** Explain to him about the pay-as-you-go Meter-Matic sales plan. He'll see that this way he can afford the refrigeration he needs.



**3.** Installation is simple . . . in just a few minutes you hook up the meter between switch box and refrigerator. If money isn't deposited daily, current to refrigeration is cut off.

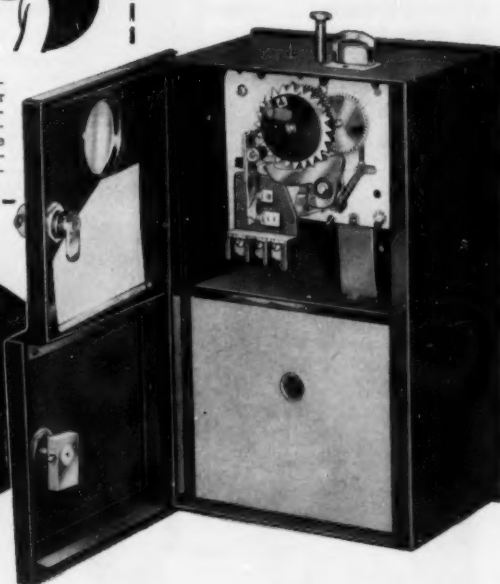


**4.** You have a happy customer—because he pays for his refrigeration the "painless" way — with small-change daily. You've made a sale that would be impossible to make any other way.



# METER-MATIC

**COIN METER  
REFRIGERATION SALES PLAN**



### GET THE COMPLETE STORY

- FULL DETAILS . . . Specifications, prices, etc.
- METER PLAN BROCHURE . . . to help you sell
- FREE SELF-MAILERS . . . for mailing to prospects

**MAIL THIS COUPON NOW!**

#### INTERNATIONAL REGISTER COMPANY

2622 W. Washington Boulevard, Chicago 12, Illinois

Send me Meter-Matic Sales Kit No. 44M. Be sure to include a free supply of 25 self-mailers for mailing to my prospects.

Company \_\_\_\_\_

My Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_



loading their dealers with more equipment than the demand trend requires to insure a profitable rate of turnover. Urging the continuance of this conservative policy, the speaker pointed out that prosperity at the factory level is meaningless if it means that the dealer or distributor has his capital tied up in equipment that he is unable to move.

Attention also was directed to a rapidly growing tendency in some fields to try to stimulate consumer buying through offering easy terms. So far, the discussion revealed, the no-money-down forever-to-pay fever has not infected the commercial refrigerator industry and, because of its traditional conservative policies, it is not expected to.

### Bankers Need Advice

When bankers or other sources of installment purchasing credit become confused over the repayment characteristics of the transaction they are called upon to underwrite, it was recommended that they be made aware of the facts. Chief among these is the inherent difference between a commercial fixture, which is a capital investment, and, for example, a domestic refrigerator or a home freezer, the latter providing the user with no financial return with which to meet his obligation.

Unfortunately, it was pointed out, credit sources sometimes fail to understand this important differentiation, and when defaults and repossessions on consumer goods sales begin to rise, assume that commercial refrigeration time sales are subject to the same conditions.

Actually, as was brought out by W. B. McMillan, president of Hussmann Refrigerator Co., and chairman of the CRMA financing committee, delinquencies and repossessions in the industry have always been much lower than in the appliance and automobile fields, even in periods of depression, and have known no significant changes in recent months.

One manufacturer, with annual sales in excess of \$6 million told the group that the firm's write-offs for bad debts had amounted to less than \$5000 for the past five years.

McMillan attributed the industry's enviable credit record to the extreme stability of its markets, the fact that a merchant or other operator is virtually out of business if his refrigerated fixtures are removed for nonpayment, and to the long-established policy of the industry in requiring adequate down payments and moderate maturities.

C. V. Hill, Jr., president of C. V. Hill & Co., a member of the financing committee, told the group that

past experience showed there was little if any connection between time payment requirements and sales volume in the industry.

Since the dealers, rather than the manufacturers have handled the bulk of time sales financing in the industry in recent years, Hill urged them to give this matter most serious consideration and not, as he expressed it, "let themselves be tempted by the false promise of getting a bigger share of business than the 'other fellow,' without working for it through legitimate selling techniques, unless they have the resources to stand the losses such a policy inevitably creates."

### Cooperation Planned

A report from CRMA's secretary, Paul H. Sullivan, on the recently created Business and Defense Services Administration program of the U. S. Dept. of Commerce, led to a decision to join with other segments of the refrigeration and air conditioning industry to develop a suitable cooperating activity.

CRMA's president, Reese L. Harrison, president of Friedrich Refrigerators, who acted as chairman of the meeting, announced the appointment of a government relations committee for that purpose. It will be composed of J. H. Coolidge, president of Sherer-Gillett Co.; C. V. Hill, Jr.; Millard Mayer, board chairman of Koch Refrigerators, Inc.; W. B. McMillan; and Robert L. Tyler, president of Tyler Refrigeration Corp. The latter was designated to serve as chairman.

### Open Types Spark Sales

Examination of demand trends revealed that open type self-service display cases continue to spark the industry's sales progress. Sales of such equipment last year, including self-service frozen food cases, accounted for 60.8% of total commercial refrigerator production, compared with 48.7% in 1949.

The ratio of self-service frozen food display equipment rose from only 9% in 1949 to 20.7% in 1953, the Association's figures disclosed, evidence of the rapid acceleration of demand for frozen food display facilities in recent years. The discussion indicated that these trends have continued into 1954 virtually unchanged.

Upright commercial freezers, a

### SALESMEN ARE GROWN, NOT BORN



HE LOOKED SO WELL FED that he was a "natural" to demonstrate foods in Arata Bros. Sacramento, Calif., super market, reports Charlie Rogers, western zone sales manager for Sherer-Gillett Co. Rogers was responsible for the installation of this "Mr. 4 x 4" refrigerated display table used as the focal point for a demonstration of hams and sausage. Although Rogers lays no claim to being a food salesman, the market owners reported that as a result of this display and the bite-size samples passed out some 5910 pounds of these meats were sold during the two-day demonstration.



# DECIDE FOR YOURSELF!

...Compare **TEMPRITE**  
with **ANY OTHER** liquid Cooler

EVERY TEMPRITE is supplied with an infinite pressure control valve. Assures perfect exit temperature... ALWAYS!

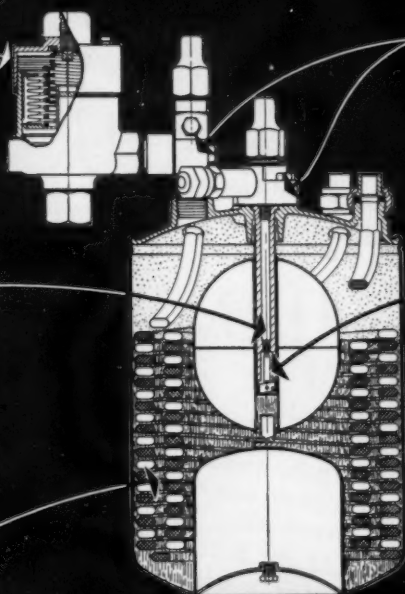
EVERY TEMPRITE is supplied with a liquid control float valve. No additional controls required.

EXTREMELY HIGH CAPACITY through exclusive patented principle! Cooling coils directly submerged in liquid refrigerant and heat transfer is instantaneous through a single wall only! (All coolers rated at 40° exit temperature, but lower or higher temperatures are available... without the addition of extra equipment.)

EVERY TEMPRITE is supplied with liquid and suction line shut-off valves, simplifying installation.

LOW-SIDE FLOAT CONTROL assures instantaneous reaction to load, and positive closing on off cycle... thus guaranteeing refrigerant flow proportionate to load requirement.

INSTANTLY COOLS water, carbonated drinks, beer, etc., etc. (Copper or stainless steel coils to suit.) Install at roadside stands, drive-ins, taverns, restaurants, fountains, amusement parks, etc. Widely used for industrial and commercial purposes such as photographic and process cooling, etc.



Self-Contained Water Coolers



Remote Water Coolers



Carbonators



Control Valves



Instantaneous Liquid Coolers



Oil Separators



Beer Coolers

TEMPRITE PRODUCTS CORP.  
P.O. Box 72-8 East Maple Rd.  
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- ☐ Send me data on Temprite Instantaneous Coolers  
☐ Ask your representative to call.

Name \_\_\_\_\_

Address \_\_\_\_\_ Zone \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

relatively new addition to the industry line, were reported to be moving in increasing volume, with the principal demand coming from retail bakeries, restaurants, hotels and institutions, although many food stores are beginning to make greater use of this type of fixture as a storage facility to supplement their frozen food display equipment. Encouraging growth of demand among retailers for the so-called island display fixture as a productive impulse-buying vehicle also was reported.

Last year was a bit more kindly to the industry profit-wise than was 1952, according to an exchange of profit experiences in the meeting. Although progressively higher costs for materials, labor, overhead and taxes during the Korean war period and the remaining months of last year caused substantial reductions in margins, increased volume and more efficient production techniques enabled most members of the industry to offset these factors to a reasonably satisfactory degree, the discussion suggested.

Materials costs were reported to have levelled off during the final quarter of 1953, and are now stable. Although labor rates and overhead expense have both continued to show some upward movement, the prospect of increased sales volume plus continued emphasis on cost-reduction methods in the factory are expected to result in a materially better profit position this year, it was generally agreed.



Take a page from my book when next you order accessories and supplies—

—see your **YORK AUTHORIZED JOBBER!**

Your York Authorized Jobber has genuine York Accessories and Supplies on hand--and he knows his business. I always call him for whatever I need...

☐ **YORK OILS**--because they are the most economical in performance per dollar of oil cost!

YORK oils are stable in the refrigerating system.

☐ **YORK VALVES AND FITTINGS**--because they are triple inspected and double tested and I know of York Valves in use for 50 years!

York offers the industry's most complete line of "Freon" and Ammonia Valves...from  $\frac{1}{4}$ " to 14".

\*Registered Dupont Trademark

Mr Wholesaler--investigate the advantages of the York line!



#### IT ALWAYS PAYS TO USE YORK ACCESSORIES AND SUPPLIES

Air Filters • Automatic Controls • Charging Connections • Coils and Piping • Cold Storage Doors • Freon Refrigerants • Gas Masks • Hand Oil Pumps • Ice Cans • Motors and Pumps • Oil • Oil Traps • Purge Devices • Receivers • Renewal Parts • Suction Traps • System Cleaners • Valves and Fittings.



YORK CORPORATION  
YORK, PENNSYLVANIA

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HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

Circle No. 51 on Reader Service Card

#### NAT SILVERSTONE DIES AFTER SHORT ILLNESS

Nat Silverstone, president of Silver-Stahl Corp., San Francisco, and one of the best-known persons in the commercial refrigeration industry on the West Coast, died recently after a brief illness.

Silverstone, who had been prominent in the commercial refrigeration field for many years, was a director of the National Commercial Refrigerator Sales Association.

#### MEMBERSHIP GROWS IN NCRSA'S "EMGAM CLUB"

Five more members of the National Commercial Refrigerator Sales Association, four distributors and one manufacturer, have earned membership in the group's exclusive "EMGAM Club" by being responsible for the enrollment of another NCRA member.

EMGAM stands for "Every Member Get A Member". The five new EMGAM members are: J. W. Bostwick, McCray Refrigerator Co., Kendallville, Ind.; E. L. Hayes, Detroit Refrigerator Mfg. Co., Detroit, Mich.; J. B. Hepfinger, Hepfinger Bros., Cincinnati, Ohio; Neil Herman, Allied Store Equipment Co., Minneapolis, Minn.; C. F. Overberg, P. H. Broering Co., Cincinnati, Ohio.

#### EXPANDS N.Y. BRANCH

Hussmann Refrigeration, Inc., has announced the opening of new and larger facilities for its New York branch office. The new modern building is located at 48-31 Van Dam Ave., Long Island City, New York.

The expanded facilities will provide approximately 12,000 sq. ft.



*Best Foods, Inc., Bayonne, New Jersey. Whole eggs for use in Hellmann's Mayonnaise are stored in this Styrofoam-insulated cooler room. The contractor was A. B. Schreckinger and Sons, New York.*

## BEST FOODS SELECTED STYROFOAM INSULATION FOR ITS SUPERIOR RESISTANCE TO MOISTURE AND MOLD

**Makers of Hellmann's Mayonnaise use easy-to-install Styrofoam for  
the economical insulation of large low-temperature egg storage room**

Wherever low temperatures must be maintained, Styrofoam® rigid board insulation has proved outstandingly successful—at a cost per-year-of-service that offers attractive savings. Styrofoam provides more of the "ideal" properties sought after in low-temperature insulation than any other commercially available material.

Specify Styrofoam insulation for low-temperature rooms, insulated vehicles, refrigerated equipment, pipe covering or perimeter insulation. Its use is indicated in any field where these insulating advantages are required: Low "K" Factor • Odorless • Resistance to Rot and Mold •

Superior Water Resistance • Long Service Life • Easy to Install • Lightweight • Low-Cost Installation—Maintenance—Operation • Available in Convenient Sizes.

**GET YOUR COPY** of the Styrofoam low-temperature booklet. It illustrates installation techniques and gives all the details of the properties of Styrofoam low-temperature insulation. Contact your Dow sales office for the name of your nearest distributor, or write THE DOW CHEMICAL COMPANY, Midland, Mich., Plastics Sales, PL 654B.



*you can depend on DOW PLASTICS*



of office space, conference rooms, private offices for sales, store planning rooms, display area and storage quarters.

W. O. Crabtree, Jr. is branch manager of the New York office.

#### FOUR NEW DISTRIBUTORS NAMED BY McCRAY

McCray Refrigerator Company, Inc., has announced the appointment of four new distributor organizations to handle its complete line of commercial refrigeration and "Twin Door" home freezers.

Al Fromholtz has organized the Colby Refrigeration Co. in Colby, Kans., to handle the sale of McCray products in 12 surrounding counties.

Monroe Food Machinery, Inc., Spokane, Wash., which has operated for years in the northwest, will distribute McCray equipment in 15 counties in the state of Washington, 9 counties in Idaho and the state of Montana west of the Continental Divide.

Sol Rauch will sell McCray prod-

#### REFRIGERATION IS KEY TO SUCCESS OF "DRIVE-IN" MARKET



**BEHIND THIS "DRIVE-IN" FACADE** of one of the nation's most novel food markets stands a full line-up of both service and self-service refrigeration cases. The management of Bowen's Supermarket in Dallas, Tex., realized that despite the convenience of this drive-to-the-door exterior, the store would not be able to hold its customers if it didn't provide the "last word" in refrigeration facilities, too.

ucts, through his well established Gotham Equipment Corp. of New York City, in 6 counties in the state of New York, including Manhattan.

Virgil H. Greene and his son, Virgil, Jr., operating as the Virgil Green Co., Oklahoma City, Okla., will distribute for McCray in the 37 counties that make up most of the western half of the state.

**BUY FROM YOUR  
REFRIGERATION WHOLESALER**

#### CARLSON TO HANDLE WESTINGHOUSE UNITS

Carlson Electric Co., Youngstown, Ohio, has been appointed wholesale distributor for Westinghouse self-contained "Unitaires" and home "Precipitrons", according to W. B. Cott, sales manager of Westinghouse Electric Corp., Air Conditioning Div.

Headed by E. C. Carlson, the firm has been associated with Westinghouse air conditioning since 1934.



Model 3 Type 100

**HOT  
OR COLD**

#### CONDENSATE DISPOSAL UNIT

This completely automatic foolproof unit removes hot or cold condensate fluids from the receiver tank and pumps it to an outside drain. Designed for simple installation in air conditioning units, the Eastern Condensate Disposal Unit offers low operating cost with fully automatic control and quiet, reliable operation. Free specification sheet CD-10 on request.

**Eastern**  
INDUSTRIES, INC.  
296 ELM ST., NEW HAVEN, CONN.





Model CVM 3534  
5 Cubic Feet per  
Minute (141 Liters)



Model CVM 3153  
2 Cubic Feet per  
Minute (57 Liters)

# Why wait for vacuum?

Vacuum work needs the speed of super-dependable Kinney High Vacuum Pumps. These pumps produce vacuums in the fractional micron ranges quickly and efficiently. Both retain better than 50% of their pumping speeds right into the less-than-10-micron pressure zone. They are easy to start — require no warm-up or hand starting. Both employ the oil sealed pumping system pioneered and perfected by Kinney; your assurance of long, low cost service.

Whatever your vacuum problem, it pays to pick a Kinney High Vacuum Pump. Competent vacuum engineers, located in all our district offices, are ready to help you get the right pump for your needs. Send coupon for details.



## KINNEY MFG. DIVISION

THE NEW YORK AIR BRAKE COMPANY

3610 WASHINGTON STREET • BOSTON 30 • MASS.



Name.....

Company.....

Street.....

City.....State.....

Please send details on the following:

- ☐ Vacuum Pumps CVM 3153 and 3534.
- ☐ The complete line of Kinney Vacuum Pumps.
- ☐ Vacuum Tight Valves.

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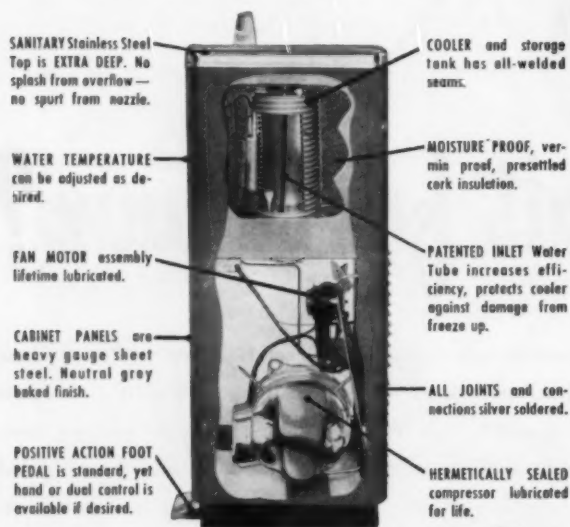
We invite you to...

# LOOK INSIDE

it's the sturdy . . .

## TEMPRITE

Drinking Water Cooler



*The Cooler with the DEEP Stainless Top!*

Stainless Steel won't crack or chip.

Easy to clean and keep clean!



Temprite Products Corporation  
P. O. Box 72-B, East Maple Rd.  
Birmingham, Michigan

Send me distributor franchise information, I am interested in handling Temprite Water Coolers.

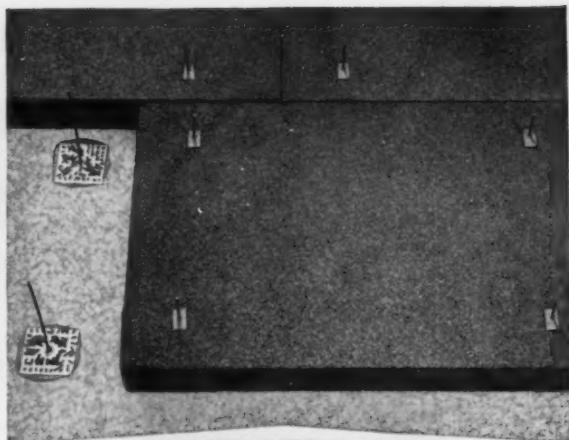
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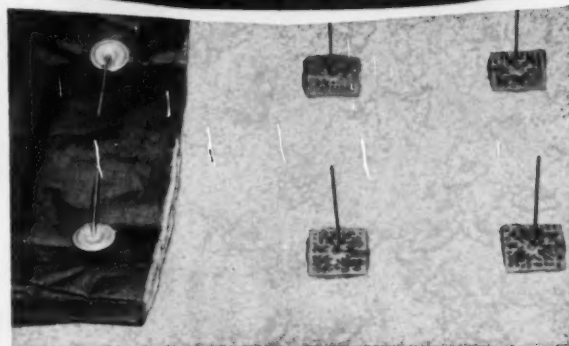
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### How To Anchor Block and Bat Insulation



to brick, tile, cement, steel  
...FASTER, EASIER, CHEAPER

GEMCO Insulation Hangers can save you many man-hours and reduce labor costs substantially when applying insulation to brick, tile, cement or steel. No more expensive drilling. No more expensive welding of wires. Quickly and easily fastened with Tuff-Bond® General Purpose Adhesive, Gemco Anchors *stay anchored* and have ample strength to hold loads in place securely. The spike-type hangers are ideal for either block insulation (used with Speednuts) or bat insulation (used with washers and simply bent over). Pronged hangers are also available for block insulation. Both are used extensively for homes, buildings, air conditioning, refrigeration.

Other Goodloe E. Moore, Incorporated, products: \*TUFF-BOND outstanding adhesives; super-strength, waterproof, stick almost anything to anything! TUFF-TRED Safety Stair Nosing for protecting any type stair steps from wear, improving the safety factor, maintaining and restoring stairway beauty.

A few choice distributorships and dealerships are available.  
Write, 'phone or wire . . .

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INCORPORATED

DANVILLE 10, ILLINOIS

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Circle No. 56 on Reader Service Card

# NEWS OF THE INDUSTRY

## COPELAND PRODUCES OPEN-TYPE UNITS FOR FRIGIDAIRE

Arrangements have been made by Frigidaire Div., General Motors Corp., to have Copeland Refrigeration Corp., supply conventional, belt drive, open-type condensing units to the Frigidaire sales organization.

Frigidaire took this action, it is understood, because it was difficult to justify the tooling program and setting up of production facilities required for manufacturing the relatively small volume of such units now used.

Since Copeland already was making open-type compressors, Frigidaire decided it would be more economical to use the former's facilities to meet the limited demand for open units.

Frigidaire emphasizes the fact that it has no intention of using these units in place of its "XD Meter-Miser" sealed units which are being produced in its own plant. Rather, the open-type units are being made available for use where the Frigidaire unit does not lend itself to the application, as in odd-cycle and d.c. systems.

Under the new agreement, air-cooled, water cooled, or combination air and water cooled open-type units will be offered in sizes from 1/6 through 5 hp. Special truck units of the open type also will be made available.

All these units carry name plates stating that they are made for Frigidaire by Copeland.

Units supplied to Frigidaire outlets will be shipped directly from the Copeland plant. All dealings pertaining to the units, including servicing, will be handled directly between Frigidaire distributing points and the Copeland factory.

## MILLS MANAGEMENT IN NEW HANDS

A new management group, headed by E. A. Tregenza, formerly executive vice president, has taken over the operation of Mills Industries, Inc., Chicago manufacturer of beverage coolers, vendors, and continuous ice cream making machines.

The new group has purchased the capital stock of the corporation, including that of former chairman



E. A. Tregenza

Ralph J. Mills and former president Herbert S. Mills.

Officers, headed by Tregenza as president, include Richard F. Dooley, executive vice president; Walter F. Hermann, vice president in charge of manufacturing; G. T. Lawler, treasurer; Fred G. Pace, secretary; and Joseph J. Koster, assistant secretary and assistant treasurer.

Directors include William P. Ronan, Harold S. Russell, Matt O. Blesius, Charles T. Scott, Frank E. Reilly, Richard F. Dooley and A. E. Tregenza.

The company, established in 1899, will be continued with the same corporate name and with an extension of its present product lines in the beverage and ice cream fields.

## SYSTEM SCIENTIFICALLY PREDICTS HOME COOLING OPERATING COSTS

The first scientific method for predicting home air conditioning operating costs has been announced by Carrier Corp.

The product of two years of intensive research on this problem and of many more years of studies on home air conditioning itself, the new method will predict average seasonal cooling costs for any home in any part of the country, according to Everett P. Palmatier, Carrier's director of research.

Its accuracy for a normal cooling season is within 8%

or \$10 for the season, whichever is greater, Palmatier stated.

"For the first time, a home-owner obtaining an air conditioning system for his residence, or one moving into a new completely air conditioned home can obtain a reliable estimate before he turns on his conditioner of what the average electrical cost will be," he said.

"It will also demonstrate that the cost of cooling is far less important in total home operation throughout much of the country than the cost of heating. For example, heating a typical 1,200 square foot, \$15,000 to \$20,000 house may run from about \$40 in Atlanta to \$120 in Washington to \$200 in the New York area. But the cost of cooling the same house will only be about \$40 for the season in New York and Washington, and about \$60 in Atlanta.

Carrier officials stated that the new cost estimating method is currently being worked out for every area in the country. When this project is completed it will be possible to determine the average seasonal cost simply by running a 24-hour load estimate on the house and multiplying it by a power consumption factor for the city and by the electrical rate.

## G-E TO TRANSFER PLANT FACILITIES

The Air Conditioning Div. of General Electric Co. has announced a major expansion of its manufacturing operations in a program to meet the growing demand for its products.

The expansion involves the transfer of G. E. home heating and cooling equipment manufacturing out of Bloomfield to plants in Trenton, N. J. and Bridgeport, Conn., according to S. J. Levine, general manager of the Home Heating and cooling Dept.

When the expansion program is completed sometime next year, Weathertron and Commercial Products operations will be located at Bloomfield; the Bridgeport plant will produce G-E boilers and related components; and the Trenton plant will manufacture home cooling units and gas and oil-fired furnaces.

Home Heating and Cooling headquarters will remain at Bloomfield.

## MARSH NAMES FLECK CANADIAN OUTLET

Fleck Bros., Ltd., 110 Alexander St., Vancouver, British Columbia, Canada, has been granted a franchise by Jas. P. Marsh Corp. Fleck Bros. will handle Marsh products in the Province of British Columbia.





**COLORS:** Chrome Aluminum  
Gloss White • Gloss Black  
Medium Green • Bright Red  
Medium Gray • Royal Blue  
Ivory • Bright Gold • Copper-  
plate • Yellow • Clear Plastic  
Black, White and Aluminum  
Lacquer

### The Serviceman's Best Friend

### Used Across America

Excellent for Painting or Touching Up  
Air Conditioning Equip. Fin Pipes  
Dust Work Converters  
Grilles Cabinets  
Piping and Cocks And 101 other uses

For better work and profit! No mixing,  
no clean-up, no compressor or hose  
needed. Just shake the can and paint.  
All cans furnished with guaranteed  
non-clogging spray valve. Complete  
your jobs the modern way. Ask your  
jobber for Sprayon today!

Attention Representatives! Some select terri-  
tories still open. Write for money making de-  
tails today!

**CHAMPION BRONZE POWDER  
& PAINT CO., Inc.**  
2324 W. Van Buren Chicago 12 Ill.

### TYLER COMPLETES 10-YEAR EXPANSION

Completion of a ten year  
expansion program, designed  
to increase and speed up  
service to customers in all  
parts of the country, has been  
announced by Robert L.  
Tyler, president of Tyler  
Refrigeration Corp. The  
company also operates plants  
in Waxahachie, Texas, Co-  
bleskill, N. Y., and Smyrna,  
Del.

The expansion program,  
which got underway at Co-  
bleskill in 1944, Waxahachie  
in 1945, and Smyrna in 1953,  
included the installation of  
new machinery, erection of  
new buildings, and the addi-  
tion of other manufacturing  
facilities.

### LEASES PLANT FOR LOW TEMP WORK

Cambridge Corp., an en-  
gineering and manufacturing  
company owned jointly by  
Carrier Corp. and Arthur D.  
Little Co., has leased a 40-  
000 sq. ft. industrial plant in  
Lowell, Mass.

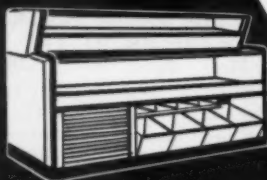
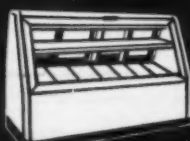
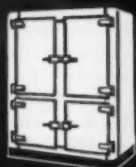
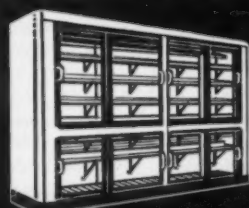
### HOLDS SCHOOL FOR SERVICE REPS.

Mueller Climatrol has  
conducted three cooling  
schools at Milwaukee for its  
customer service representa-  
tives, in a stride toward prop-  
er servicing of air condition-  
ing equipment.

The five-day schools were  
conducted in conjunction  
with the Milwaukee School  
of Engineering. Classes were  
instructed by Mueller techni-  
cians, engineering school fac-  
ulty, and other refrigeration  
and air conditioning special-  
ists.

Based on a regular 18-  
month refrigeration course  
curriculum, the school sub-  
jects include air properties,  
supply and distribution, re-  
frigeration fundamentals for  
air conditioning, cooling  
load calculation and equip-  
ment.

Three laboratory sessions  
were also scheduled to pro-  
vide practical equipment  
service problems which test-  
ed student proficiency in lo-  
cating and servicing cooling  
equipment.



## Pinnacle REFRIGERATED EQUIPMENT Most Complete Line in the Country!

### PINNACLE Single Duty SELF SERVICE CASE

**Most Wanted Fruit and Produce  
Self Service Case on the Market!**

Small store operators are cramped for space and  
need this refrigerated space-saving case to eliminate  
spillage of perishables. Goes through a 36" door-  
way! Has all the features grocers want... Large  
Storage and Display areas... Removable Storage  
Bins... Gleaming White Life-time Porcelain on  
exterior front ends and wearing surfaces... Fluores-  
cent Lighting... Low Operating Cost, etc. Comes in  
6-8 and 10 Foot Lengths. Self-contained Models also  
available.

### BIG PROFITS FOR YOU, MR. DEALER!

OPEN SELF SERVICE — Dairy-  
Meat-Vegetable Cases, Self-De-  
frating Freezers, DELICATESSEN  
CASES.

A few Pinnacle Territory Franchisees  
are still available. Wire or write  
today for full information and  
illustrated literature.



REACH-IN BOXES, BAKERY  
FREEZERS, BUTCHER CASES...  
Double and Single Duty.

FULL VISION CASES, WALL  
BOXES... Dairy and Beverage  
DOUGH RETARDER BOXES, etc.

**Pinnacle**  
EQUIPMENT CORPORATION  
FLEETWOOD, PENNSYLVANIA

EXPORT DEPARTMENT — 39 Broadway, New York



## ATOM-PROOF VAULT COOLED BY CARRIER

The contract for air conditioning the nation's second big atom-bombproof vault for private use has been announced by Carrier Corp.

The vault, the first west of New York State, is being constructed in an abandoned Southern Pacific Railroad tunnel at Zayante Creek in the Santa Cruz Mountain range in California. It is being built by Western States Atomic Vaults, Inc., and was scheduled to be opened for storage about May 1.

The West Coast vault will be a mammoth safe deposit box for keeping vital business records, treasures of art and micro-films safe from bomb destruction, decay or disfigurement, according to John F. Kooistra, San Francisco branch manager for Carrier's Machinery and Systems Div.

He stated that the air conditioning equipment in the new vault will maintain a temperature of 65 degrees F. and a relative humidity of 45 per cent. A Carrier central system Weathermaker is used to maintain the precision conditions required.

The 241-foot tunnel containing 51,000 cubic feet of rentable vault space, originally accommodated a narrow-gauge railway system. When Southern Pacific purchased the railroad in 1906 it was converted to larger standard gauge and lined with concrete and brick.

## OPENS PRE-SEASON HOME COOLING DRIVE

To encourage homeowners to get the jump on the hot weather demand for air-conditioning, Coleman Co. has launched a "beat the heat" drive offering a pre-season discount of up to \$325 for converting existing Blend-Air home heating systems to year-round air conditioning.

A direct mail campaign, the drive has been featured by a series of five letters, one posted every other week, from president Sheldon Coleman to thousands of present owners of Blend-Air heating systems.

## HOLDS MEETINGS ON AUTO COOLING UNITS

A series of 34 refrigeration and air conditioning meetings were held recently by Detroit Controls Corp. on the eastern seaboard.

Purpose of the sessions was to acquaint retailers wholesalers, shop service personnel and automobile dealers with up-to-date mobile air conditioning equipment.

A demonstration instrument panel showed the wide variation of operating conditions encountered.

## FRIGIDAIRE LOWERS ROOM COOLER PRICES

Frigidaire Div., General Motors Corp. has announced an adjustment on prices of room air conditioners by making reductions of from \$20 to \$40 on all models larger than 1/3-hp.

In order to place dealers in all cities across the country on an equal basis, freight on all models will be prepaid.

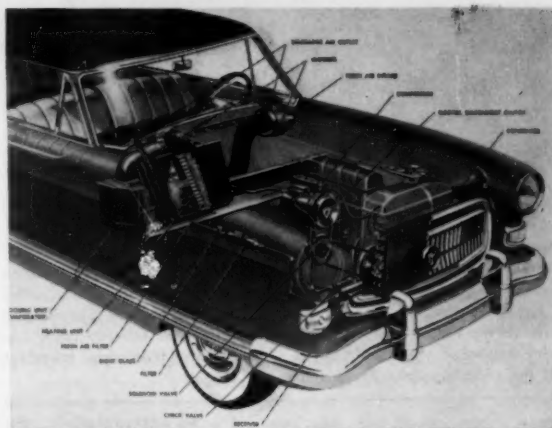
New suggested cash prices are as follows: 1/2-hp unit, from \$319.95 to \$299.95; 3/4-hp model, from \$389.95 to \$359.95; 1-hp model, from \$459.95 to \$419.95. The price of the 1/3-hp unit remains at \$299.95.

## TECUMSEH REOPENS WEST COAST PLANT

Tecumseh Products reopened its West Coast Service Div. on May 1 in a new plant at 1127 57th Ave., Oakland, Calif., according to H. M. Kelso, service manager. The new plant, with over 8000 sq. ft. of floor space, replaces the Emeryville, Calif. plant destroyed by fire last Feb. 16. Cliff Knudson will be in charge.

The new plant will be used exclusively for the repair of Tecumseh compressors and condensing units for customers selling in California, Colorado, Arizona, Washington, Oregon, Utah, Nevada, Idaho, New Mexico and El Paso, Tex. It is convenient to truck and rail transportation.

## TURN A COLD EYE ON WARM WEATHER



**THE ALL-WEATHER EYE** automotive air conditioning system just introduced by Nash Motors Div., Nash-Kelvinator Corp., for installation in Nash passenger cars is a heating, cooling, and ventilating unit combined in a package arrangement located forward of the instrument panel. Single knob control operates both heating and cooling units. The system is claimed to eliminate cold drafts by evenly distributing the cool air throughout the passenger compartment for both front and back seat comfort. An electric clutch disconnects the compressor when it is not in use.

## DEVELOPS TRAINING IN HOME COOLING

A new program now in use to train heating, plumbing, sheet metal and commercial air conditioning dealers in the fundamentals of residential air conditioning has been developed by Carrier Corp.

The program consists of a basic and practical course in refrigeration fundamentals, load estimating, selection of equipment for the particular job, duct layout, servicing, and the latest sales techniques in the home air conditioning field.

It will enable a dealer whose experience to date has been confined mainly to warm air or wet heat systems or to commercial air conditioning practices, or contractors, appliance firms and salesmen with no previous experience, to move directly into the swiftly growing home air conditioning field on a volume basis, according to William A. Lake, residential sales manager for Carrier.

"Thousands of heating dealers today throughout the country are facing the need to re-orient their approach to the home market in order to participate in this vast potential," Lake pointed out.

Training sessions are al-

ready under way or have been scheduled for nearly a thousand dealer representatives, Lake stated. The program is made up of six two-hour classes or two day-long sessions conducted by distributor and Carrier field personnel.

## NEW FIRM FORMED TO MAKE REGISTERS

Formation of General Register Corp., Cedar Grove, N. J., has been announced by B. P. Harding, president of the new concern as well as of the 20-year-old predecessor manufacturing company, B & M Metal Products Corp., also of Cedar Grove.

The General Register plant has begun manufacture of a complete line of adjustable type registers, grilles, and accessories for central plant cooling and ventilating systems. Distribution will be made to contractors, distributors, and installers through a national organization of representatives, the company states.

Principals in the new firm, besides Harding, are R. D. Anderson, engineering vice president, and P. W. McCloskey, manufacturing vice president.

## RSES GROUP WINS MUELLER AWARD



**RECEIVING THE MUELLER AWARD** for their work in 1953 on safety in Mueller Brass Co.'s award program is the Oil Capitol Chapter of the Refrigeration Service Engineers Society. Shown from left to right are: Mel Cox; Norman Cooper of Mueller Brass Co. who presented the check; Clyde Copp; Darrell Robinson, president of the chapter; John Ross; and K. G. Wight.

## F-13 GIVES SAFETY IN COOLING TO -150

"Freon-13", a nonflammable and nonexplosive refrigerant designed for systems producing temperatures in the range of -70 to -150 F., now is finding wider application in many types of metal treatment, chemical processing, and testing work, Du Pont Co. says.

Supplies of the refrigerant, which may simplify the design of equipment for low-temperature work and eliminate the use of flammable and explosive refrigerants, will be stocked at the company's warehouses at Carney's Point, N. J., and East Chicago, Ind. It will be available in 5-, 9-, 23-, and 80-pound cylinders.

Big advantage of Freon-13 is its adaptability to use in compact, economical hermetic-type compressors in very low temperature applications.

## KNOX TO SUPPLY SUNROC WITH CANS

Sunroc Co. and Knox Metal Products, Inc. have signed a long term contract under which Knox Metal Products will supply all Sunroc Co.'s requirements of milk dispenser cans for Sunroc's new line of refrigerated bulk milk coolers.

The New Sunroc milk dispenser will be marketed through the company's national sales organization, and will be available for commercial, industrial and institutional mass feeding establishments.

## REMINGTON REPORTS SALES, ORDERS UP

Orders booked to March 1 for Remington room air conditioners for 1954 delivery were more than 90% of the total sales for the entire previous fiscal year which ended October 31, 1953, according to Herbert L. Laube, president of Remington Corp.

Sales completed for the first quarter, to February 1, of Remington's current fiscal year were 23% ahead of the same period last year.

## UNARCO NAMES ONTARIO OUTLET

Albern Universal Limited, 366 Adelaide St. West, Toronto has been appointed by Union Asbestos & Rubber Co. to represent Unarco's heating and cooling division in Southern Ontario and in the Montreal metropolitan area.

Headed by Jack L. Kamin, president, Albern Universal is currently setting up offices in Montreal and is appointing dealers.

## DEALERS URGED TO "BEAT THE HEAT"

General Electric home heating and cooling dealers are being urged to "Beat the Heat" in a promotion launched recently by G. E.

The opening gun in the promotion was a brochure containing nineteen sales tools including promotional literature, ad reprints, publicity reprints, consumer finance plans and a suggested direct mail program.

## ASHVE JUNE MEETING SET FOR SWAMPSCOTT

Some 600 members of the American Society of Heating and Ventilating Engineers are expected to attend the 60th semi-annual meeting at the New Ocean House, Swampscott, Mass., June 28-30.

According to Prof. B. H. Spurlock, Jr., program and papers committee chairman, topics for discussion will include solar radiation, air filtration, operating costs of residential cooling, relation of room size and panel area, and vertical jets for hot and cold air. Educational and recreational activities have been planned.

## 18% NICKEL SILVER MADE AVAILABLE

With the lifting of restrictions on nickel, 18% nickel silver strip, precision rolled to very close tolerances and to thin gauges and foils, is readily available from the Industrial Div., American Silver Co. for use in the manufacture of components for the refrigeration and air conditioning industry.

Brilliant silvery white in color, the 18% nickel silver is highly malleable and ductile, highly resistant to corrosion, wear and fatigue. It is rolled by American Silver Co. in strip from 6 to .0005" wide to tolerances as close as plus or minus .0001". This strip is available in quantities from 1-lb up.

## BUSH AND HEAT-X OPEN WAREHOUSES

Bush Manufacturing Co. and its wholly-owned subsidiary, Heat-X-Changer Co. have announced the establishment of warehouse facilities at 114 Memorial Drive S. W. in Atlanta, Ga., and with Tresko, Inc., 2418 Walnut St., Kansas City, Mo.

## NEW IEEM BROCHURE EXPLAINS ACTIVITIES

A new 24-page brochure has been published by the Institute of Environmental Equipment Manufacturers to outline the group's activities, explain its membership classifications, list the contents of Institute publications, and set forth the rules for a science contest sponsored by the organization.

Copies of this brochure may be obtained by writing to Dr. George D. Wilkinson, general manager, Institute of Environmental Equipment Manufacturers, 30 Church St., New York 7, N. Y.

The brochure's forward discusses the reasons for the formation of this new industry group, and outlines the services rendered both to manufacturers and users of environmental equipment.

The Institute-sponsored science contest offers substantial awards to science members submitting prize-winning papers at the Institute's annual conference.



**NEW COOLING PACKAGE** developed by Norman Products Co., Columbus, Ohio, for use with its summer-winter home air conditioner is inspected during the first of a series of technical meetings for the company's sales organization by E. A. Norman, Jr., president; Homer C. Schmitt, refrigeration engineer in charge of cooling; James Taylor, Norman representative in Arkansas, Mississippi and Louisiana; Harold Warnick and Ed McNair Jr. of L. E. Bovee Co., Pittsburgh distributor; and D. D. Piper, executive vice president of Norman.

## AIR CONDITIONING INDUSTRY HAS ROSY FUTURE, EXECUTIVES SAY

Rosy predictions for the future of all segments of the air conditioning industry continue to be voiced by executives of equipment manufacturing firms as the industry moves into what may well be the biggest selling season in its history. A summary of some of the latest of these optimistic prognostications follows:

"Air conditioning is one of the great growth industries of our time," declares James H. Carmine, executive vice president of Philco Corp. "We believe that sales of single room air conditioners by the industry will increase 50% to approximately 1,200,000 this year."

Sales of year-round air conditioning for homes in 1954 would more than double such sales in 1953, according to the forecast of United States Air Conditioning Corp. in its annual report. Sales of such units, this report points out, have risen from virtually nothing in 1946 to about 60,000 last year. "It would appear," the report continues, "That 125,000 of such installations will be sold in 1954."

Continuing this projection, the report estimates that a total of 2 million homes in the United States will be fully air conditioned within the next 5 years, and that within 10 years the non-air conditioned home will be obsolete.

"The air conditioning business as a whole," the report continues, "may reach a record volume of \$2 billion in 1954, and by 1963 may be doing \$5 billion worth of business annually. Some 40% of the total will be in central station systems of various kinds, another half-billion will be in self-contained units for smaller commercial applications, and the balance will be for residential air conditioning."

Within three years practically every new home selling for \$15,000 or more will have year-round air conditioning, according to the predictions of Edwin E. Hokin, vice president of Union Asbestos & Rubber Co. And by 1958, he believes, this feature will be standard equipment in almost every new house built in the United States.

Hokin, who is in charge of Unarco's new heating and air conditioning division, bases this forecast on the estimate of the American Institute of Management that in four years the industry will be selling 700,000 year-round residential air conditioning systems an-

nually. "In 1952," he points out, "only 15,000 new homes were equipped with such units. Last year's sales amounted to about 50,000. This year the Institute estimates the figure will be approximately 120,000."

"Over-all sales results during 1953 have strengthened prediction that the 1950's will be the great growth decade for the air conditioning industry," declared Cloud Wampler, president of Carrier Corp., in a review of the industry's progress during the past year.

Fastest growing segment of the industry, Wampler points out, is the year-round air conditioning of homes. While the great proportion of such installations in 1953 were in new homes, the current year will see another major residential market begin to develop in the field of existing homes, he believes.

"In total," he declares, "it seems probable that the number of dwellings with complete year-round air conditioning should total 2 million by 1958, and that such equipment should be selling at a rate exceeding 1 million installations a year 10 years from now."

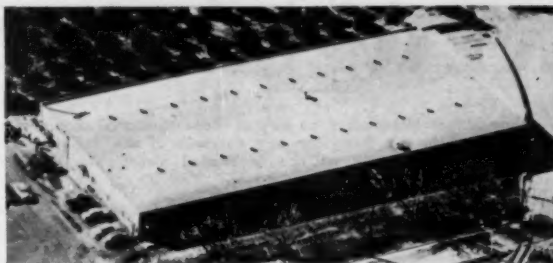
## NAME DUHIG AS SERVEL DIRECTOR

Stanley W. Duhig, chairman of the board of Southern Clays, Inc., a corporation engaged in Kaolin mining, has been elected an additional member of the board of directors for Servel, Inc.

At the recent annual stockholders' meeting, all the members of the existing board were re-elected. The board, with Duhig's election, now numbers nine members.

Re-elected members of the board include: W. Paul Jones, president; Louis Ruthenburg, chairman of the board; Rudolph Schnackenburg, vice president; James F. Donnelly, vice president; William V. Griffin; Richard C. Hunt; Hunter S. Marston; and Robert E. Walker.

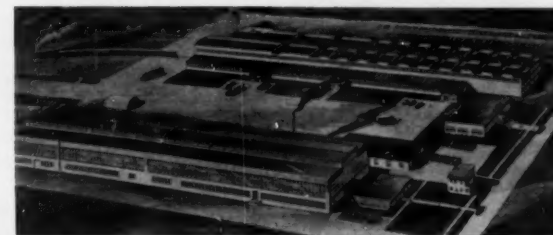
## NEW AND EXPANDED PLANTS POINT UP CONTINUING GROWTH OF INDUSTRY



**ABOUT 300 WHOLESALERS**, contractors, consulting engineers and representatives of other concerns attended the recent opening of Bush Mfg. Co. and Heat-X-Changer Co.'s new plant in Riverside, Calif. Located on a 9½ acre plot, the plant contains some 35,000 sq. ft., will contain manufacturing facilities for both Bush and Heat-X-Changer equipment.



**FULL SCALE OPERATIONS** are under way in Tenney Engineering, Inc.'s new Union, N. J. manufacturing plant. The 30,000 sq. ft. plant consolidates and enlarges facilities formerly maintained in two separate plants. The new plant will be devoted exclusively to the manufacture of environmental equipment which simulates climatic conditions.



**INDUSTRIAL AND OFFICE BUILDINGS** shown at the top, rear, have been leased by United States Air Conditioning Corp., adjoining its existing plant in the foreground. This new plant adds 138,000 sq. ft. of manufacturing space to a total of 126,000 existing production area.



**NEW BRANCH OFFICE** and warehouse in the Los Angeles area has been opened by Wagner Electric Corp. at 614 Lairport St. in El Segundo. Serving the company's operations in California, Arizona and part of Nevada, the new location contains 22,500 sq. ft. of floor space plus parking area, truck handling facilities and spur track for rail service. L. G. Tandberg is manager of the electrical branch office, Carl Stevens of the automotive branch office.



# NEW PRODUCTS

For further information on any of these products, simply circle on the postcard provided in this issue the key numbers of the items in which you are interested. Your request will be forwarded directly to the companies concerned.

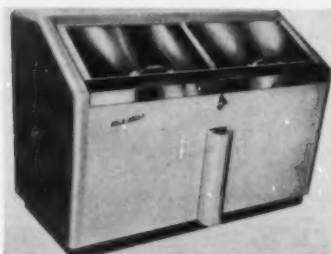
(For Air Conditioning Products turn to page 102)

## Beverage Cooler

**Product:** Model PT-27 Kold-Draft Pebblestone beverage cooler.

**Manufacturer:** Uniflow Mfg. Co., Erie, Pa.

**Features:** Available in 13, 27, 40, and 54 case capacities, coolers are also available with either self-contained or separate refrigeration units. Coolers offer both convection and conduction cooling. Finger-touch opening of the roller lids. No blowers are used. No loss of cold



air when roller-lids are left open during rush periods. Cooling coil design permits handy brand separation and fast independent cooling. Warm bottles placed in one section do not affect bottles in other sections. Smallest unit is 31 $\frac{1}{4}$ " long, 29 $\frac{1}{2}$ " deep. The 54 case model is 127 $\frac{1}{2}$ " long and 29 $\frac{1}{2}$ " deep. Unit height is 39". Soft green wear-resistant infra-red baked metal finish.

Circle No. 151 on Reader Service Card

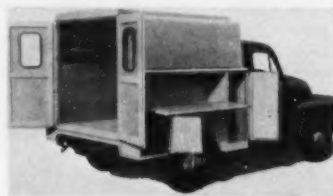
## Service Accessory

**Product:** Upper structure for addition to "Carry-All" bodies to create a totally-enclosed service unit.

**Manufacturer:** Morrison Steel Products, Inc., Buffalo, N. Y.

**Features:** Structure provides a protected, covered working area, with six extra shelves running the full length. Full height lockable

rear doors. Safe-driving vision through the rear cab and rear door windows. Available for all Carry-



All service bodies for  $\frac{1}{2}$ ,  $\frac{3}{4}$  and 1-ton chassis. It can be purchased with a new body or easily added to Carry-All bodies already in service. Circle No. 152 on Reader Service Card

## Refrigerant Carton

**Product:** Six-can "Handi-Pack" container for "Charg-A-Can" disposable refrigerant containers.

**Manufacturer:** Aerosols and



Refrigerants (Eston Chemicals) Div., American Potash & Chemical Corp., Los Angeles, Calif.

**Features:** Similar to carrying containers used by beverage companies and other manufacturers, the package results in higher efficiency of storing. Provides a convenient and easy-to-handle carrier for the service man. Eston packages F-12, F-114, and sulfur dioxide.

Circle No. 153 on Reader Service Card

**BUY FROM YOUR  
REFRIGERATION WHOLESALER**

## Ice Cube Maker

**Product:** Model SC-500 "Scotsman Automatic Super Cuber" ice cube machine.

**Manufacturer:** American Gas Machine Co., Div. of Queen Stove Works, Inc., Albert Lea, Minnesota.



**Features:** Especially designed for businesses and institutions, machine will produce 500 lbs. or 10,000 cubes a day. Space-saving model occupies no more floor space than models with half the production. "Cycle-Matic" system of control automatically compensates for unpredictable changes and variances in room and water temperatures, water supply pressure. Cubes are slow-melting, solid, completely finished and uniform in size. Unit has low power and water consumption. Simple installation, needs no expensive plumbing. Automatic operation shuts machine off as soon as the 400 lb. capacity stainless steel storage bin is filled.

Circle No. 154 on Reader Service Card

## Display Case

**Product:** "Kleervue Floating-Air" model DG8R refrigerated display case.



**Manufacturer:** Friedrich Refrigerators, Inc., San Antonio, Tex.

**Features:** Overall width of only 33 $\frac{7}{16}$ " fills needs for markets with



restricted space and narrow aisles. Fitted with sliding doors on both top and bottom compartments. 3-shelf display arrangement gives maximum display area. Meat operator can see and reach all parts of the case while working from the rear. Tilted, adjustable shelves afford excellent customer visibility of merchandise. Interior finished in baked white enamel on zinc-grip steel. Exterior also finished in acid-resistant porcelain-on-steel with stainless steel trim. Full vision service doors. Triple "Thermopane" glass is used in front panel. Insulated with "Fiberglas", sealed against moisture infiltration.

Circle No. 155 on Reader Service Card

#### Packaged Dehydrant

**Product:** "One-shot" tubes containing "Flo" chemical dehydrant.

**Manufacturer:** Allin Mfg. Co., Chicago, Ill.

**Features:** Just enough dehydrant is contained in a tube to treat a refrigerating system containing 2 lbs. of refrigerant. Tip of tube is

broken off exposing small opening at cone end which can be pressed against any convenient opening in the refrigeration circuit. Contents of the tube are discharged into the system by squeezing tube. No air or moisture is introduced into the system because tube is collapsed as



contents are discharged. Tube can be wrapped around a conspicuous refrigerant line to indicate that the dehydrant has been added for adequate protection against moisture freeze-up in the system.

Circle No. 156 on Reader Service Card

#### Universal Pumps

**Product:** Ten new universal pumps as addition to existing pump line.

**Manufacturer:** Bell & Gossett Co., Morton Grove, Ill.

**Features:** Universal pumps are equipped with a rubber ring mounted motor. Designed for larger forced hot water heating systems, pumps are available in capacities to 1200 gpm and pressure heads to 85'. While all-purpose centrifugal pumps will handle required circulation of hot water systems these universal pumps eliminate the noise which is of prime importance in that type installation.

Circle No. 157 on Reader Service Card

#### Plug-In Units

**Product:** Panel type refrigeration in walk-in coolers.

**Manufacturer:** Taylor-Burch Refrigeration Products, Jackson, Mich.

**Features:** Model 100, a 1-ton unit will maintain a 35 F temperature in a 12 x 12 x 7 1/2' cooler under

do the whole job...make the whole profit!

## install Hirsh Pre\*Bilt shelving, too!

Don't settle for just part of a job when there are still more profits for the taking. Install Hirsh Pre\*Bilt shelving, too! It gives you an edge over competing bidders when you can do a complete job! Hirsh shelving is simple to install—it's so easy your customers can do it themselves. Both wall shelving and gondolas in the Pre\*Bilt economy lines are pre-finished and complete—there's nothing more to buy.

**S. A. Hirsh Mfg. Company**  
 8051 Central Park Avenue  
 Skokie, Illinois DEPT. CR-6

Gentlemen:  
 Please send me \_\_\_\_\_ without obligation \_\_\_\_\_ your free literature on Hirsh Pre\*Bilt wall shelving and gondolas.

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 address \_\_\_\_\_  
 city \_\_\_\_\_ zone \_\_\_\_\_ state \_\_\_\_\_

write now for information and prices ►

Circle No. 62 on Reader Service Card

normal conditions. Model 75,  $\frac{3}{4}$ -ton unit designed for 8 x 10 x 7 $\frac{1}{2}$ ' coolers and Model 50,  $\frac{1}{2}$ -ton unit is designed for a 6 x 8 x 7 $\frac{1}{2}$ ' box. Temperature settings can be altered if desired. Simple installation possible: cut hole to fit in side wall



of cooler; set unit through the hole and fasten with 4 screws; hook up power and unit is ready for operation. All units are air cooled, eliminating need for water connections. Model 100 available with water condenser if desired. Gas and oil charges are hermetically sealed. Electrical system completely armored. Fan motors lubricated for life. Mounted on a side wall, 1-ton unit projects only 16" into room. Available with either Tecumseh or Servel compressors.

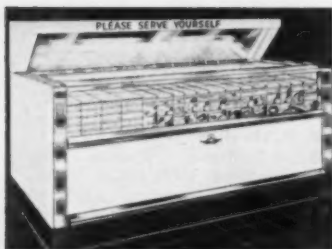
Circle No. 158 on Reader Service Card

#### Frozen Food Case

**Product:** Model AD8R frozen food display case.

**Manufacturer:** Ace Cabinet Corp., New York, N. Y.

**Features:** Case never has to be



defrosted, is capable of holding up to 1000 frozen food packages. Insulated with low thermal conductivity corkboard and rigid glass fiber, 4" on sides, 5" on bottom. Fully sealed against moisture and

vapor infiltration. Forced convection finned evaporator refrigeration. Defrost control and low pressure control are furnished. Control compensates for load and humidity conditions to insure a clean evaporator at the end of each defrost interval. Full-vision case has angle reflecting mirror to show contents. Dimensions are: about 96" long, 55" high and 39" deep, including base trim or 36 $\frac{1}{2}$ " without base trim.

Circle No. 159 on Reader Service Card

#### Gas Leak Detector

**Product:** Super-sensitive liquified petroleum leak detector for Halide gas.

**Manufacturer:** Turner Brass Works, Sycamore, Ill.

**Features:** Disposable fuel tank is quickly and easily replaced with a new one when empty. Detector speeds positive testing for leaks of all non-combustible Halide refrigerants because more powerful suction draws fumes to reaction plate



faster. Color changes in flame are brilliant, show leaks with split-second accuracy. Detector lights instantly, only one valve for easy flame adjustment. Flexible metal hose eliminates kinking. Extra-long 4' search hose for greater convenience when working in hard-to-reach places.

Circle No. 30 on Reader Service Card

#### Electric Motor Line

**Product:** Line of "Klosed" normal speed electric motors.

**Manufacturer:** Sterling Electric Motors, Inc., Los Angeles, Calif.

**Features:** Available in frame sizes 182 and 184, these motors in-

corporate NEMA approved standards which specify more horsepower from volume of space occupied. Diagonal cover type boxes can be rotated 360° to be fixed in any desired position and have tapped hole for conduit. Moisture resistant labyrinth seal on pulley end protects open motors as well as



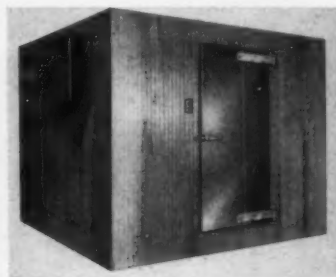
fan-cooled designs. A plug seals the short end bearings. New brackets give added protection to the windings. Improved insulation provides greater electrical and mechanical strength to stator windings. Windings protected with heat resistant baked varnish and moisture resistant sealer.

Circle No. 161 on Reader Service Card

#### Walk-in Cooler

**Product:** Chill-Air Economy" walk-in cooler.

**Manufacturer:** Nor-Lake, Inc., Hudson, Wis.



**Features:** For meat, dairy, beverage, and produce applications. Cooler is shipped in knock-down sections for easy assembly. Available with or without "Kool-Rite" packaged refrigeration system, cooler utilizes rigid framing with in-fitting doors. Selected and kiln dried Douglas fir framing used in construction, is cross braced for structural strength. Metal exterior and

interior door pans are formed from heavy gage auto body steel, framed with fir and finished with baked enamel. Interior of freezer is finished with clear, vertical grain fir flooring with flush joints. Semi-rigid glass fiber insulation is used throughout.

Circle No. 162 on Reader Service Card

#### Water Cooler

**Product:** Model CW-5 "Cooler Cub" pressure type electric water cooler.

**Manufacturer:** Remcor Products Co., Chicago, Ill.

**Features:** For connection to city water system, cooler has a capacity of 5 gallons of chilled water per hour. Instantaneous copper cooling coil, built-in pre-cooler. Top is



white plexiglas, deep drawn with anti-splash feature, is equipped with a perforated drain fitting, push button type bubbler assembly with built-in pressure adjustment, and provision for glass filler. Hermetically sealed  $\frac{1}{8}$ -hp condensing unit with extra large finned condenser. Unit is cooled by quiet motor driven fan. Uses F-12 for refrigerant. Adjustable thermostat in rear of cabinet adjustable from 38 to 50 F. Connections  $\frac{3}{8}$ " I.P.T. water inlet,  $1\frac{1}{4}$ " I.P.T. drain. Dimensions are:  $30\frac{1}{2}$ " high, 12" wide and 14" deep.

Circle No. 163 on Reader Service Card

#### Test Chamber

**Product:** Test unit ST-120-3 automatic test chamber.

**Manufacturer:** Cincinnati Sub-Zero Products Co., Cincinnati, Ohio.

**Features:** Unit automatically

cycles test parts through alternate hot and cold temperatures of 200 F and -120 F and repeats the cycle as many as 100 times. Unit's test chamber is 30" long, 11" wide and 16" deep. Holding time at high and low temperature levels is variable with a dual-set timer which determines half-cycle time anywhere between 0 and 120 minutes. To allow automatic cycling, unit is equipped with explosion and waterproof strip heaters rated at 3500 watts and programming controls.

Circle No. 164 on Reader Service Card

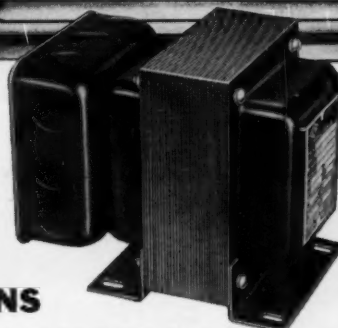
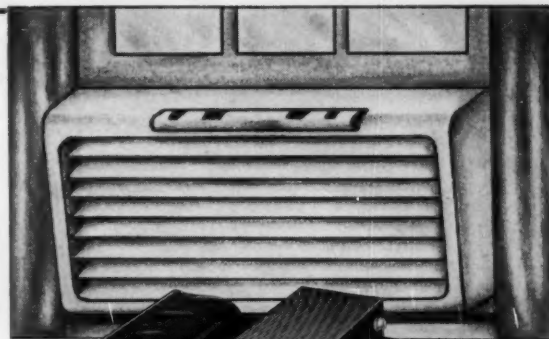
#### Heavy-Duty Thermostat

**Product:** Heavy-duty thermostat for accurate control of temperatures where dust, humidity, and corrosion are a problem.

**Manufacturer:** Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

**Features:** Multi-purpose instrument is engineered for uses in fruit warehouses, banana-curing warehouses, etc. It will control gas, oil or stoker-fired heating plants. Corrosion-resistant parts. Completely sealed "Micro" switch contacts.

## Acme Electric BOOST AND BUCK TRANSFORMERS



### ... CORRECT 208 VOLT INSTALLATIONS

Often in commercial and industrial installations the electrical source is a 3 phase power line. By tapping two legs of the supply, the single phase service obtained is 208 volts. With a compressor motor designed for 230 volts, the voltage available will not bring the motor up to speed and will result in poor performance of the air conditioning, refrigeration or other equipment and eventually burn out the motor starting windings.

Acme Electric Boost and Buck transformers are designed with secondary windings that can be used as a booster to provide proper voltage to the electric motor wherever low voltage conditions exist. They are intended for use on single phase circuits that have been tapped from a 240 volt, 3 phase power supply.

With an Acme Electric Boost and Buck transformer, the 208 volt input circuit is connected in series with the secondary circuit, boosting voltage 12 to 24 volts or providing 220 to 232 volts as desired to match the motor requirements.

Acme Electric Boost and Buck transformers are designed for cool operation under continuous service. High quality materials and heavy duty design assure trouble-free performance.

Write for catalog BB-199

### ACME ELECTRIC CORPORATION

826 WATER ST.

CUBA, NEW YORK

West Coast Engineering Laboratories: 1875 West Jefferson Blvd., Los Angeles, Calif.  
In Canada: Acme Electric Corp. Ltd., 50 Northline Road, Toronto, Ont.

## Acme Electric TRANSFORMERS

Circle No. 63 on Reader Service Card



Liquid-filled temperature sensing element is coiled within the cover for protection from damage, ease of cleaning, and maximum sensitivity. Control range is between 35 and 100 degrees. Switching action is provided so it can also be used to regulate building ventilating systems. Desired temperatures are set by external knob with settings indicated on an easily-read dial on the front of the bright red cover. Instrument is 4" high, 6" wide.

Circle No. 165 on Reader Service Card

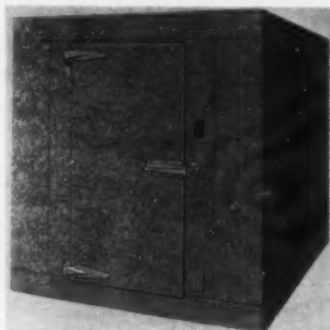
#### Walk-In Cooler

**Product:** "Walk-in Economy Cooler" combining refrigerating efficiency with economies in features.

**Manufacturer:** Bally Case & Cooler Co., Bally, Pa.

**Features:** New unit is identical to Bally's deluxe cooler, but is stripped of the deluxe design features. Operating efficiency remains the same. Entire cooler, including the door, is covered with 20 gage galvanized steel instead of aluminum painted finish. Porcelain fin-

ish on both sides of the door is also eliminated. Zinc coated malleable iron hardware replaces chrome-plated brass. Standard wall, floor and ceiling sections in 2 and 4'



widths allow easy assembly. Coolers packed throughout with 5" insulation. Can be easily converted to walk-in freezer. Coolers are equipped with a patented safety lock safeguarding anyone against being locked inside.

Circle No. 166 on Reader Service Card



## HERE'S WHY ALL REMCO PRODUCTS SELL FASTER—SAVE YOU MONEY

**E-Z-SEE LIQUID-FLO-INDICATORS** with the exclusive sensitive flap, responsive to changes in flow. E-Z to SEE thru, these indicators now permit the serviceman to analyze accurately functions of the expansion valve by action or position of the flap. Positively leakproof—perfectly safe.

**SUPER-FLO FILTER-DRIERS** for both original equipment and replacement. Check SUPER-FLO's amazing low price against ordinary driers which do not have massive fiberglass depth filters, molded drying elements and spun-end copper shells. Perfectly free flow. Remco also manufactures famous Cross-Flo and Standard Duty driers.

**FROST-TITE FLARE NUTS** positively eliminate creeping, cracking or splitting of nuts in refrigeration systems by providing relief for expanding ice through patented forged frost-relief slots. Yet they cost no more than unrelieved flare nuts.

Available to the trade through wholesalers everywhere.

Circle No. 64 on Reader Service Card



#### Upright Merchandiser

**Product:** Upright dairy product merchandiser.

**Manufacturer:** Eskimo Cooler Corp., Chicago, Ill.

**Features:** Self-defrost display case has a capacity of 700 quarts of milk. Case with adjustable shelves needs never to be defrosted,



does not require time clocks or other mechanical devices. Case defrosts automatically. Life-time doors glazed with "Thermopane" glass. Cabinet is powered with a 1/3-hp sealed unit, ready for plugging in. Inside liner completely sealed. Insulated with non-settling glass fiber



and cork. Adjustable temperature control. Supports welded in. Ceiling mounted high humidity coil. Dimensions of the case are: 73 1/4" high, 57" long, and 30" wide. Interior completely illuminated. Finished in baked white enamel. Circle No. 167 on Reader Service Card

#### Thread Sealer

**Product:** "Plastic Lead Seal" pipe thread and gasket sealing compound.

**Manufacturer:** Crane Packing Co., Chicago, Ill.

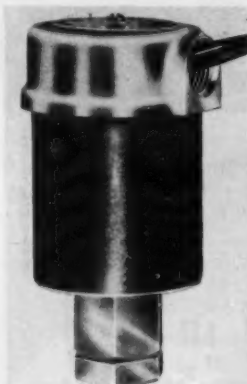
**Features:** Available in 1-lb. brush top cans, sealing compound is a UL approved permanent, yet non-hardening sealer which allows easy disassembly of connections. Compound withstands pressures up to 6000 psi, temperatures up to 500 F and is insoluble in water, steam, gas, refrigerants and all petroleum products. Brush applicator permits working the compound thoroughly into the threads. Brush extends to the bottom of the can.

Circle No. 168 on Reader Service Card

#### Lift Valve

**Product:** Stainless steel solenoid direct lift valve.

**Manufacturer:** Atkomatic Valve Co., Indianapolis, Ind.



**Features:** Valve bodies constructed of 303 stainless steel, solenoid armature is 416 stainless. Pressures are 5000 psi to 150 F maximum, 2500 psi to 400 F maximum. Orifice sizes range from 1/16 to 3/16" diameter depending on pressure requirements and coil used. Paper wound or glass impregnated

coils are used depending on temperature range. Coils used on normal pressures are single wound, higher pressures use double wound coils with two separate windings. For temperatures over 180 F glass-wound silicone impregnated coils are recommended.

Circle No. 169 on Reader Service Card

#### Sound Absorbers

**Product:** "Sonosorber" sound absorbing units.

**Manufacturer:** Sonosorber Corp., East Orange, N. J.

**Features:** Small, portable, easily installed sound absorbers designed for noisy industrial and commercial locations where ordinary acoustical treatment is not applicable or adequate. Units have high sound absorption value in both high and low frequencies. Physical structure of units tends to break up sound waves, attract, absorb or drain the sound due to diffraction. Units are about 24" long, are hung on 2, 4, 6 or 8' centers. Can be used in clusters or honey-comb patterns or in layers of groups over or near the source of

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Columbus 15, Ohio    Tucson, Ariz.    Seattle, Wash.    Baton Rouge 2, La.    St. Louis 17, Mo.  
Inglewood, Calif.    Oakland 1, Calif.    Portland 7, Ore.    Washington 6, D. C.    San Juan 23, P. R.

sound. Non-inflammable units have no adverse effect on fire insurance rates.

Circle No. 170 on Reader Service Card

### Soldering Torch

**Product:** Type P "Torch-O-Matic" pistol-shaped soldering torch.

**Manufacturer:** Velocity-Power Tool Co., Pittsburgh, Pa.

**Features:** For soldering, burning, sweating, etc., torch is designed



for use with propane gas. Squeeze of the trigger produces a controlled flame, either a fine pin-point or a full 6" flame. Instant-on, instant-off

feature saves time and gas. No pumping, priming, heating and waiting. Torch connects directly to propane tank without need for intermediate valve connections.

Circle No. 171 on Reader Service Card

### Dairy Display Case

**Product:** Model OD-8A for dairy products, vegetables, packaged meats.

**Manufacturer:** C. Schmidt Co., Cincinnati, Ohio.

**Features:** Case contains two shelves that are covered with refrigerated air while a third shelf re-



places the refrigerated mirror. This third shelf is not refrigerated. Bottom shelf is 29 1/8" deep and the top refrigerated shelf is 18" deep. Shelf in the superstructure is 10 1/4" deep. Case is 8' 8 1/2" long, 41" deep, and 60 1/2" high.

Circle No. 172 on Reader Service Card

### Hand Cleaner Dispenser

**Product:** "Quickie" waterless hand cleaner dispenser.



**Manufacturer:** Tudor Chemical Specialties, Inc., Yonkers, N.Y.

**Features:** Dispenser has no gears to get out of order or any glass to break. A new can containing 5 lbs of the hand cleaner has

## New Arrival in Marsh "Serviceman" Family



*Smash hit  
at the  
All Industry Show*

# The MARSH Serviceman TIMER

### IT SHOWS:

Total running time  
Total elapsed time  
on 24-hour dial



115 VOLT,  
60 CYCLE MODEL

For testing smaller units with compressors of 3/4 hp. or less. Operates in series . . . Simply plug equipment into timer; timer into wall outlet.



230 VOLT,  
60 CYCLE MODEL

For testing larger installations regardless of horsepower. Operates in parallel. Note well shielded alligator clips for attaching to motor terminals and power lines.

This great addition to the "Serviceman" line does a vital job supremely well. Its white hairline pointer shows total time of test; red pointer shows total running time. It is easier to read, use, and interpret than a recorder . . . has no charts or leaky pens to bother with . . . yet it is very moderately priced.

Two models (opposite) cover all conditions. Note sturdy case finished in attractive hammerloy gray with sharp white numerals on black dial . . . also suction-cup feet for firm placement without damage to finish. This is the instrument you've been waiting for. Write for details, or

*See your Wholesaler*

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Sales affiliate of Jas. P. Marsh Corporation  
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# MARSH

*Refrigeration Instruments*

GAUGES • WATER REGULATING VALVES • SOLENOID VALVES • HEATING SPECIALTIES

Circle No. 66 on Reader Service Card

been designed to fit this container. Approximately 1000 hand cleanings can be obtained from this size container. Cleaner dispensers are being sold at cost with shipments of the hand cleaner.

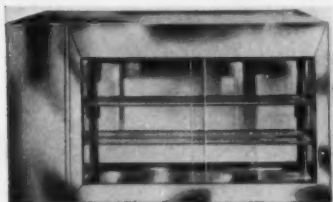
Circle No. 173 on Reader Service Card

#### Counter Display Case

**Product:** "Sel-erator" self-contained refrigerated display case.

**Manufacturer:** Lern, Inc., Chicago, Ill.

**Features:** Pass-through case especially designed for cafeterias and restaurants with island type counters. Sliding glass doors on both front and rear, facilitate fast self-serving. Unit is portable, plugs into



any standard 110-115 volt outlet. No special installation is necessary. Constructed of stainless steel both inside and out, unit has adjustable shelves, is thermostatically controlled. Display case is 48" long, 26½" high and 20" deep.

Circle No. 174 on Reader Service Card

#### Capacitor Tester

**Product:** "Mike-O-Meter" instrument for testing and analyzing any motor capacitor.

**Manufacturer:** Sprague Products Co., North Adams, Mass.

**Features:** By flicking a switch, serviceman can find out whether any motor capacitor within the range of .1 to 2000 microfarads is open, shorted, or intermittent. By balancing two simple controls as guided by a "magic-eye" tube, capacitance can be determined in microfarads and also the power factor of the capacitor quickly, without further reference to tables. Available in two models: M-1 for 115/50-60; and M-1X for 115-230/25-60 cycle operation. Unit weighs 6 lbs., is 9" high, 6" wide and 5¾" deep. Instrument is housed in gray, wrinkle-finish steel case.

Circle No. 175 on Reader Service Card

#### Junction Boxes

**Product:** "4-Way" heavy duty electrical outlet junction boxes.



**Manufacturer:** National Wire & Cable Corp., Los Angeles, Calif.

**Features:** Available with 15, 25, 50, and 100' cord length, the junction boxes are obtainable with six different outlet combinations. Boxes, wire and outlets are made of heavy duty materials. Strain-relief anchor keeps the cord from pulling out of the boxes. Allows use of sufficient outlets right beside the work for all lights and power equipment. Boxes furnished in various combinations of 2 wire T-slot and twist lock outlets and 3-wire straight and twist lock outlets to meet any requirements.

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# Tenney

## TWC\* UNIT COOLERS

### for Comfort Cooling

### CHILLED WATER

\*TW = TWin fans and motors.  
C = Comfort cooling, with standard filter sections.

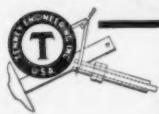
## OR

## DIRECT EXPANSION

**For the first time available for use with chilled water or direct expansion.**

Semi-circular for all-round air distribution, Tenney TWC's are built in a range of 1 to 3 nominal tons. Designed expressly for comfort cooling, with distributor circuits where necessary. All units complete with standard filter sections. Like all Tenney "TW's" they open for servicing by removal of a single thumb screw. No electrical, refrigeration, or drain lines to disconnect.

*Bulletin 105-54 has complete information and specs.*



# Tenney

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Plants: Union, N. J. and Baltimore, Md.

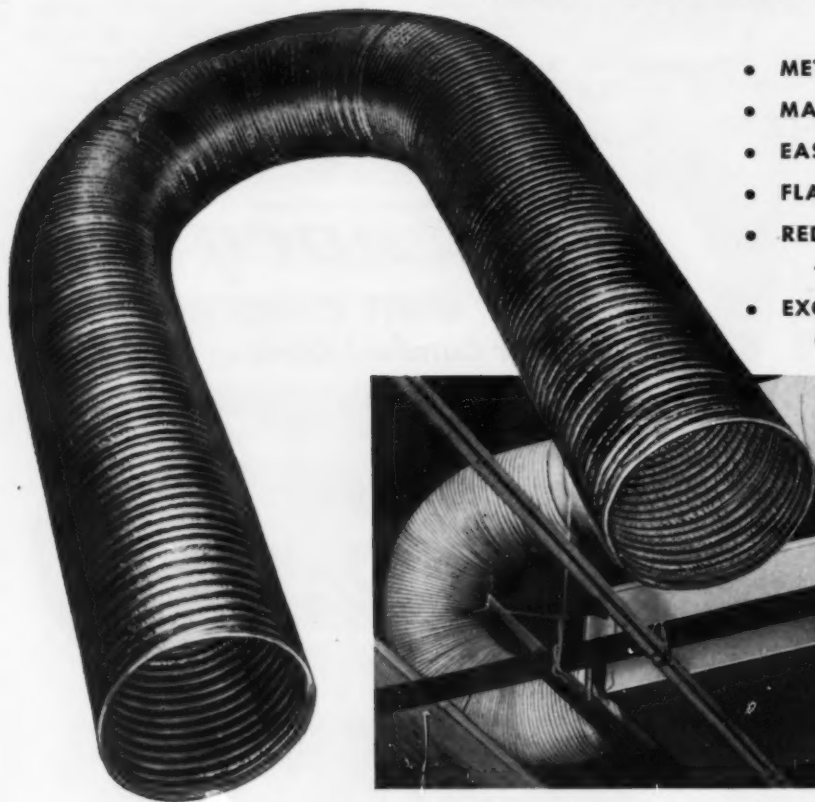
Engineers and Manufacturers of Refrigeration and Environmental Equipment

Circle No. 67 on Reader Service Card

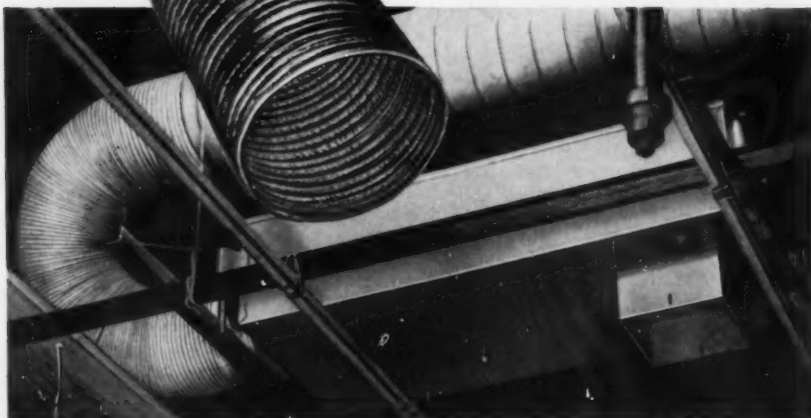
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# Thermafex:®

## NEW FLEXIBLE AIR DUCT cuts "run-out" duct costs!



- METAL-LINED AND COVERED
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- EASY TO INSTALL
- FLAMEPROOF—WATERPROOF
- REDUCES VIBRATION  
—DEADENS NOISE
- EXCELLENT AIRFLOW  
CHARACTERISTICS



THERMAFLEX is easy to handle: it can be compressed longitudinally making it easy to install. It lends itself to abrupt changes in direction.

### Specially designed for you —

THERMAFLEX A — is a three-ply, insulated, reinforced duct specially designed for use as a cost-saving flexible connector from main line ducts to sound boxes and diffusers in both high and low pressure air-conditioning and ventilation systems.

Because it is so easy to install and may be bent

around interferences such as water pipes, structural cross connectors on vertical ceiling supports, THERMAFLEX eliminates the need to reposition sound boxes after installation... thus greatly cutting time and labor costs.

And, where good accoustical features are desired, THERMAFLEX B is ideal. It is a 2-ply reinforced, laminated air duct.



CORPORATION

Guilford, Connecticut

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all the time-saving,  
cost-cutting facts you need.





## COOLING

Circulation and  
Humidity Control

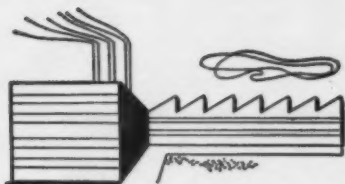
## HEATING

# AIR CONDITIONING

## *Section*



**COMMERCIAL**



**INDUSTRIAL**



**INSTITUTIONAL**



**RESIDENTIAL**

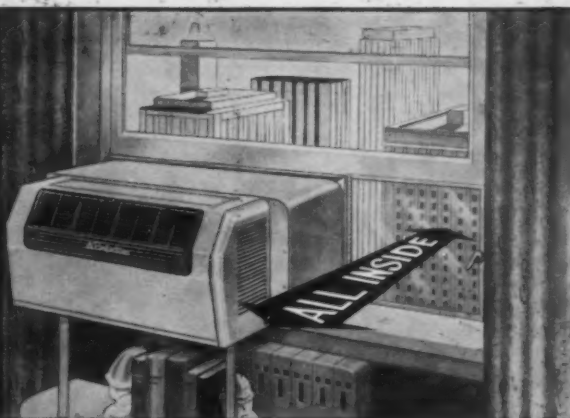
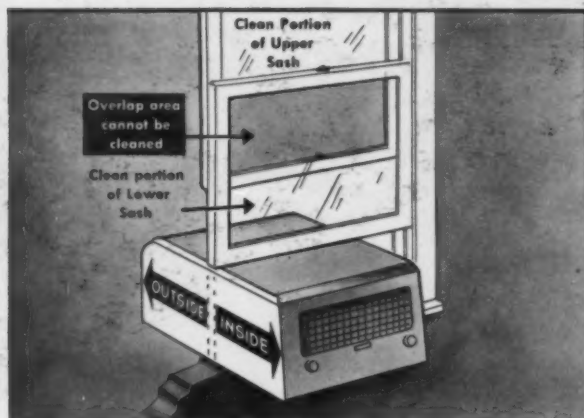
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# REVOLUTIONARY

Air conditioner **ENTIRELY INSIDE** the glass line!

Here's why Perfection helps you "crack" profitable office building, hotel, motel and hospital markets...

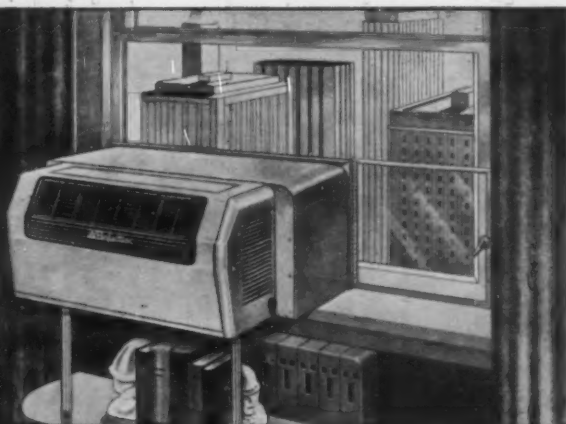


**ORDINARY INSTALLATION:** Conventional room air conditioners must be installed partly inside, partly outside the window. Windows can never be fully closed or fully cleaned. This kind of installation must be permanently weather-sealed. Most building managements frown on such installations.

**NEW PERFECTION "Inside-the-glass line" METHOD:** With Perfection's exclusive adapter kit the unit can be installed *completely* inside the window. *Either* window sash can be **COMPLETELY** lowered or raised behind the unit. Building management gives its unqualified approval to the Perfection Room Air Conditioner.



**BOTTOM SASH UP:** With adapter door open and bottom sash up, window washers have plenty of room to get in and out when window cleaning is required.



**BOTTOM SASH DOWN:** Because lower window sash can be raised or lowered at will, **COMPLETE** cleaning of **BOTH** sides of upper and lower sash is possible.

## Perfection HAS ALL THE ANSWERS

- Doesn't disfigure the face of building.
- Simplifies window washing.
- No dripping to stain building or annoy pedestrians.
- No winter storage problem.
- Four capacities in identical cabinets.
- No permanent weather-seal required.

Write or call . . . Perfection Stove Company, 7516-F Platt Avenue, Cleveland 4, Ohio

YOUR HOME DESERVES

# Perfection

Circle No. 69 on Reader Service Card



**Would you recognize this 40-year-old house as . . .**

## ***A Prospect for Air Conditioning?***

**If you think that air conditioning is strictly for the new home market, here are facts and figures to show you how wrong you are**

**P**ROOF that year-round air conditioning is practical even for older houses built long before the residential cooling industry was born is offered by a 40-year-old house in Nutley, N.J.

This 8-room frame dwelling is located in a quiet residential street in Nutley, N.J. All eight spacious rooms — four upstairs bedrooms, living room, dining room, kitchen, and basement recreation area — are provided with air conditioned comfort the year around.

An entirely new system of warm air ducts, registers, gas-fired furnace, and air conditioner was in-

stalled to replace the old steam heat system.

Because original house design included steam heat, no provisions had been made for forced warm air supply or return ducts to individual rooms. Return air to the gas-fired furnace is brought through a large duct in the living room floor. A secondary supply of outside air is drawn through a duct located in the foundation wall under the deep front porch.

The thorough modernization of the existing heating system included the installation of furred-in air supply ducts to each room. They

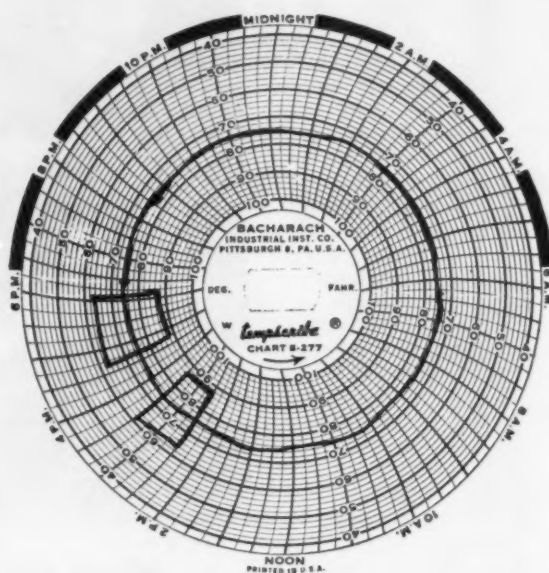
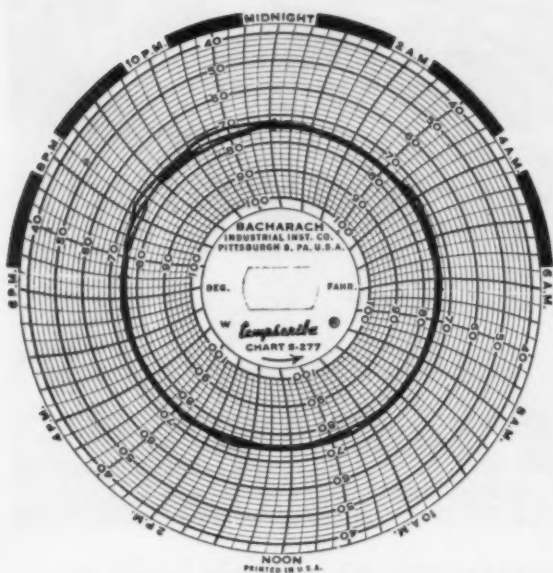
were built in corners of first-floor rooms and run to second-floor outlets, then covered with plaster and paint.

Heart of this fully automatic year-round system is a 3-hp Chrysler Airtemp water-cooled residential air conditioner installed in conjunction

***For full details of the operation of this system, please turn the page . . .***



## These charts tell the tale of temperatures maintained during the system's cooling cycle



with a gas-fired warm air furnace. On the cooling cycle, a mixture of home air and outside air is drawn through the furnace, filtered of dirt and dust, and cooled and dehumidified in the air conditioning unit. It is then circulated to all eight rooms by the powerful furnace blower.

Installation of this completely automatic system was completed in October, 1952, at a total cost of only \$1980.

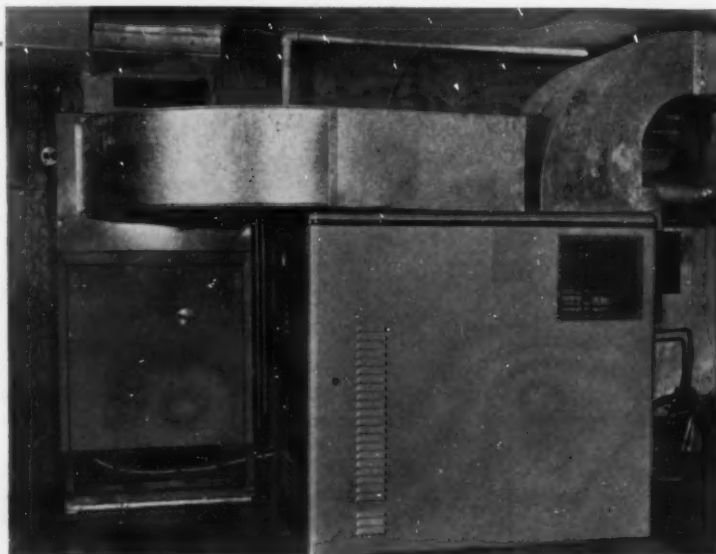
To check the system's effectiveness during July, 1953, temperature recording instruments were used to track the temperature of air in the home as it circulated through the return air system. Daily temperatures for the week ending July 10 varied between 71 and 76 F. Lowest temperatures were noted from 8 p.m. to midnight and 4 to 6 a.m. Peak load hours, according to the charts, were between 2 and 6 p.m.

A one-day check revealed a 2-degree temperature differential from 74 to 76 F. Outside air temperature was fair and hot, with maximum temperatures up to 88 F.

All of which proves once more that year-round air conditioned comfort can be practical — from the standpoint of cost, equipment installation, and operating results — in even the oldest of houses.

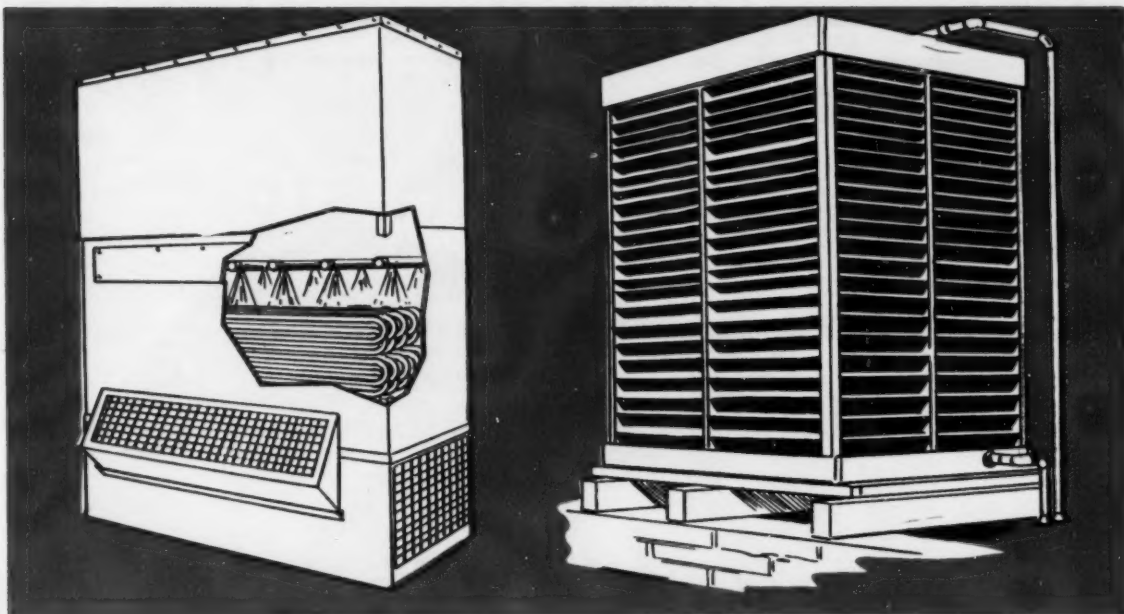
**TEMPERATURE RECORDING INSTRUMENTS** were used during last July to track the temperature of the air as it circulated through the return air system of the house. Daily temperatures for the week ending July 10 (left) varied between 71 and 76 F. A one-day check (right) revealed a 2-degree temperature differential from 74 to 76 F. Outside weather during this period was fair and hot, with temperatures running as high as 88 F.

**HEART OF THE SYSTEM** installed to provide year-around comfort in the 40-year-old home is a gas-fired warm air furnace installed in conjunction with a 3-hp air conditioner. A mixture of home and outside air is drawn through the furnace, filtered, then passed through the air conditioner for cooling and dehumidification. It is then circulated to all eight conditioned rooms by the powerful blower of the furnace.





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## 2 ways to tackle A GROWING MARKET



**SMALL COMMERCIAL BUILDINGS** like the June Building in Cincinnati, Ohio, constitute a rapidly increasing market for comfort cooling installations. This building, which houses a number of business and professional offices in addition to the headquarters of the June Savings & Loan Co., was not originally constructed with air conditioning in mind, but the installation of cooling equipment has materially increased the desirability of the building's rental space.

## 1

## Central Station System Saves Rentable Space

**F**ACTORY-assembled central station air conditioning equipment, with built-in evaporative condenser, has solved a two-fold space problem for H. Mendel & Co., prominent Atlanta dry goods wholesaler.

The high cost of space in the five-story downtown building occupied by the Mendel company demanded the use of a compact air conditioning plant to provide 30 tons of cooling for two floors of store and display area. Furthermore, utilization of a remote cooling tower for water recirculation was precluded by space considerations. In this congested business area there was no available outside space for place-

ment of the tower and a roof installation was ruled out by the expense involved in long piping runs and in needed structural reinforcement of the roof.

A usAIRco 30-ton "RK" packaged air conditioning plant unit, including evaporative condenser, was placed on the first floor with ductwork distributing conditioned air to the main store area and buyer display room.

Fresh air and evaporative condenser air are ducted in from the outside and evaporative condenser exhaust is ducted out through short runs passing through existing window openings, eliminating the need for any wall cutting operation.

## 2

## Package Units Offer Low Installation Costs

**L**OW installation and operating costs and individual room temperature control were important factors in the selection of the air conditioning equipment in a Cincinnati office building.

The office rooms of the three-story, 12,000 sq. ft. June Savings and Loan Co. building are representative of those found in any modern building of its type.

When it was constructed, air conditioning was not considered. Enclosed ductwork was not installed, nor was any kind of cooling equipment employed.

After a number of years of carrying on business in exhausting sum-

mer heat and humidity, the building officials decided to investigate the possibilities of installing some kind of air conditioning equipment.

John Weigel, the building manager, set out to find the best, yet most economical kind of system to buy. He considered several types, which might be adaptable to a situation of this kind—central systems which would employ ductwork throughout the building, chilled water convector systems, window units and individually-controlled, self-contained commercial units.

After checking the merits of all of these, Weigel decided the self-contained individual unit system

would be best for this building. He found that this system was best for him and his tenants' needs, because the initial cost was low and there was little, if any, need for expensive ductwork. The units could also be controlled individually or as a group from a central location.

The installation was completed without interruption of business in any of the offices. This was an important factor to the tenants occupying the office space.

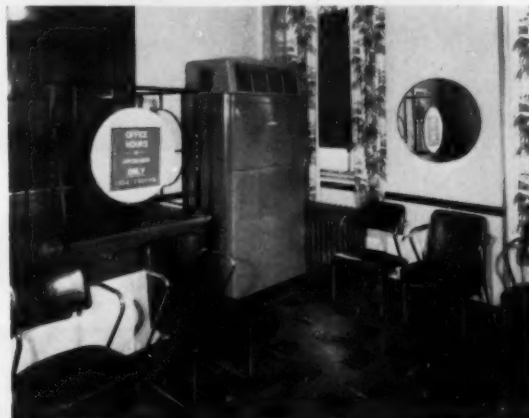
The equipment consists of eight 3-ton and three 5-ton Frigidaire self-contained units. Two water-saving cooling towers were installed on the

*Continued on page 113*

**THE GENERAL OFFICE** and reception area of the June Savings & Loan Co., on the ground floor, is cooled by a 5-ton self-contained air conditioner. Similar units serve the entire building.



**THIS PROFESSIONAL OFFICE**, like others in the June Building, is served by a 3-ton packaged air conditioner. Such units offer maximum flexibility, occupy little usable floor space.



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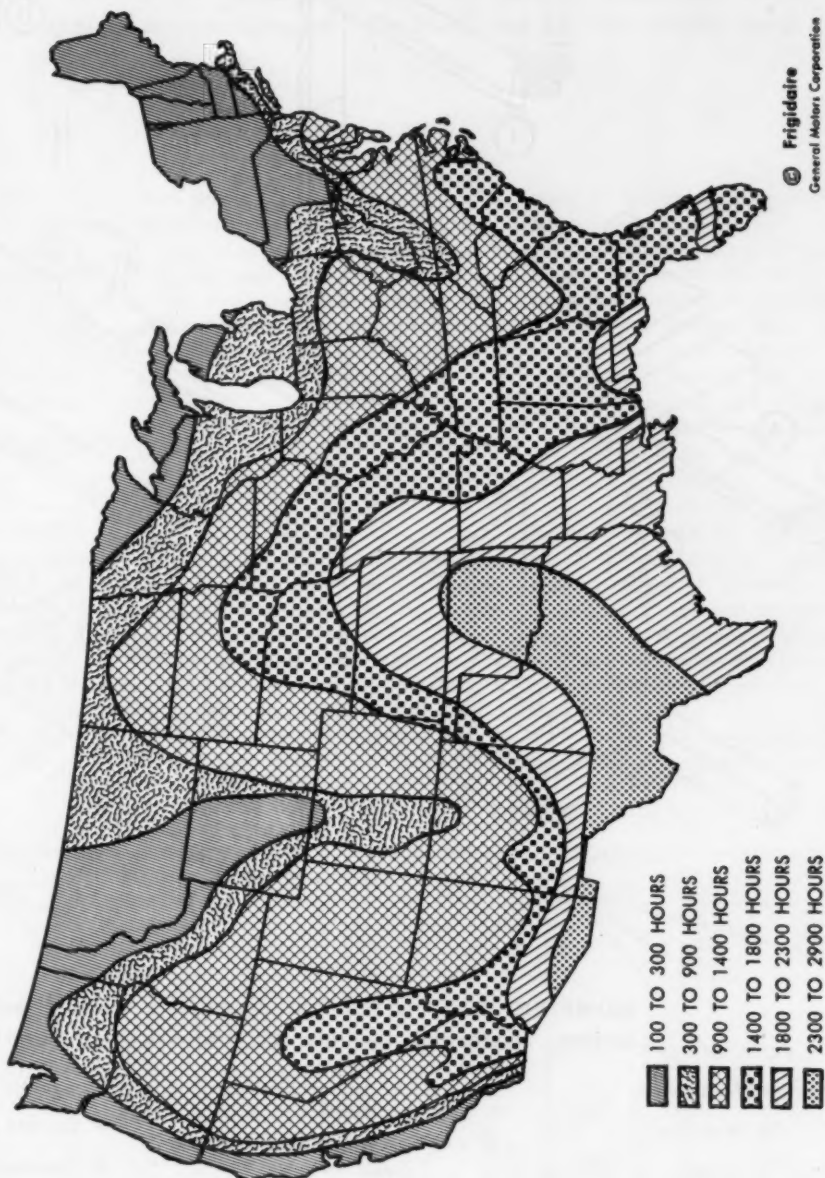
JUNE, 1954 • COMMERCIAL REFRIGERATION



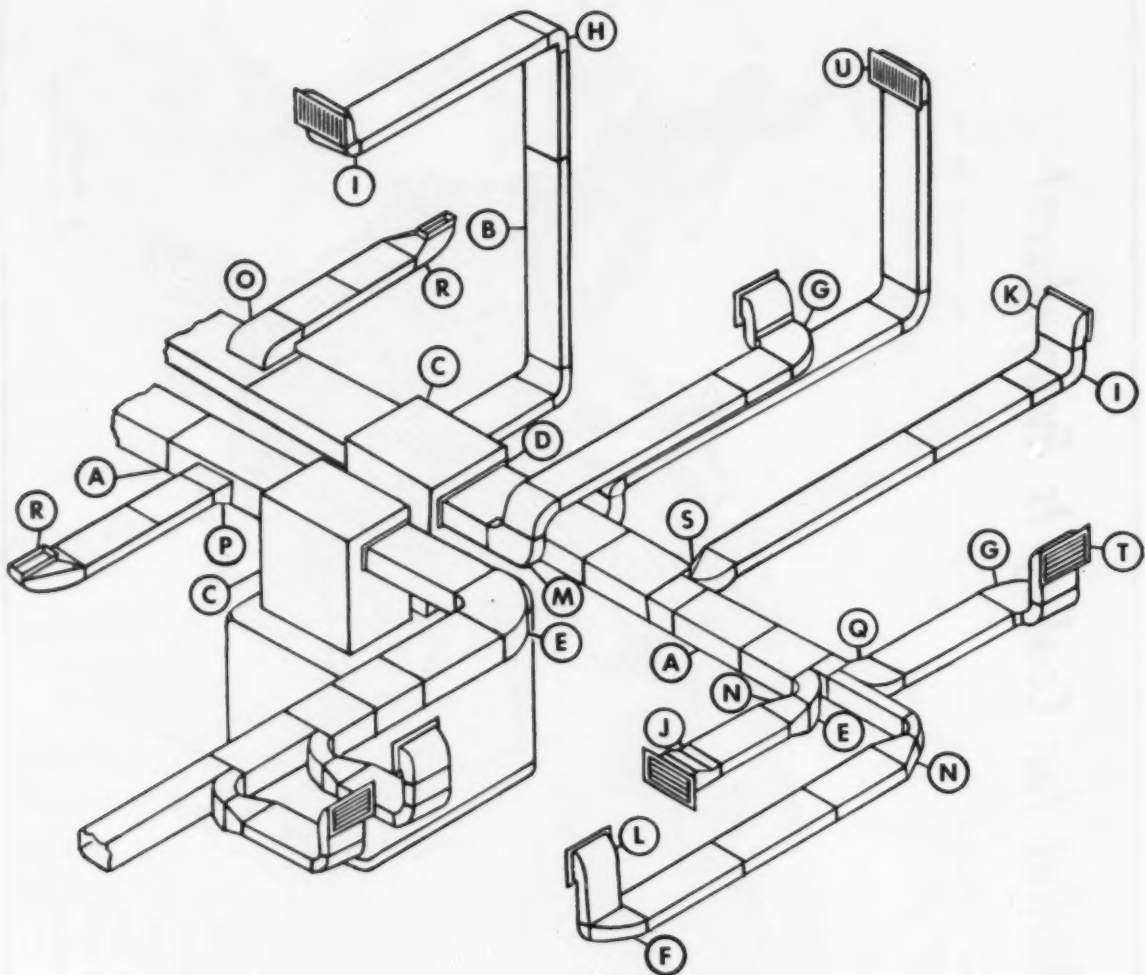
# *The Market for Cooling Is Everywhere!*

Here is a guide to air conditioning requirements throughout the United States, showing that there is a need for cooling practically everywhere. This map has

been prepared by Frigidaire engineers on the basis of the average number of hours the outside temperature exceeds 80 F during each cooling season.



# PRE-FORMED



**ISOMETRIC DUCT LAYOUT** of a complete air distribution system, illustrating the use of prefabricated materials.

- |  |  |                                 |
|--|--|---------------------------------|
| A. Trunk Duct                                    | H. 90° Vertical Stack Elbow<br>(sq. throat)    | O. Extended Plenum Top Takeoff  |
| B. Wallstack                                     | I. 90° Vertical Stack Elbow<br>(radius throat) | P. Extended Plenum Side Takeoff |
| C. Plenum  | J. Horizontal Stackhead                        | Q. Transition Side Takeoff      |
| D. Collar Connector                              | K. Vertical Stackhead                          | R. Reverse Elbow-Stack          |
| E. 90° Horizontal Trunk Elbow                    | L. Vertical Sidewall Stackhead                 | S. Transition Offset Takeoff    |
| F. 90° Horizontal Stack Elbow<br>(sq. throat)    | M. Trunk Takeoff—Top                           | T. Baseboard Register           |
| G. 90° Horizontal Stack Elbow<br>(radius throat) | N. Transition                                  | U. Wall Register                |

(Illustration courtesy of Viking Mfg. Corp., Cleveland, Ohio)

# DUCTS AND FITTINGS

... which can be used to build up complete air distribution systems are available in a variety of materials from a number of manufacturers. Here are some practical suggestions on how they can be effectively used.

**T**HE fabrication of a duct system may present some of the most difficult problems connected with an air conditioning installation. These can often be most easily solved by the use of factory-made ducts and fittings, which minimize on-the-job labor and do not require heavy cutting and forming equipment.

Metal ductwork of both galvanized iron and aluminum is available, and it is possible to construct an entire system of non-metallic pipe and fittings. Each kind has characteristics with which the designer and installer should be familiar, in order to construct a good duct system at minimum cost.

Any good sheet metal shop can make duct and fittings to specification, but where these can be standardized considerable savings are

often possible in both cost and installation time.

Metal duct may be assembled of L-shaped sections which can be nested and compactly packed for stocking or shipping. Larger sizes may have only the side rails formed with seams, and the complete duct assembled by joining with flat sheets of the required width for top and bottom. Clips are available, with which a plenum or any other rectangular fitting may be formed, of flat sheets, without using a break.

Most of the required fittings are stocked, neatly packaged, requiring only assembly and fastening with drive clips or bending over of seam flanges with a mallet. Since these fittings are formed on precision dies, the parts fit readily in place.

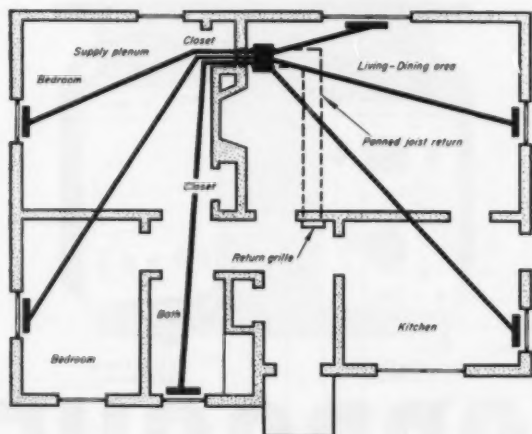
Fig. 1 is an isometric layout of a duct system, showing some of the

many preformed fittings offered to the industry.

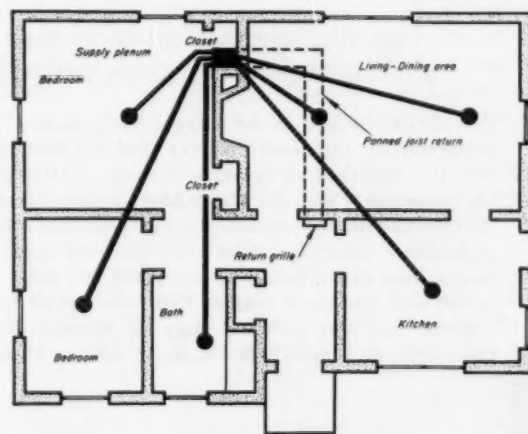
The duct and fittings for a complete system can usually be ordered from one source, and an accurate cost estimate obtained from catalog prices. It is highly desirable that the engineer making the original layout be familiar with all the fittings supplied by the manufacturers so that the entire system can be ordered by number.

Galvanized iron is the most commonly used metal for custom built installations and for many preformed fittings. It is readily available in any size and thickness, is easily worked, strong and reasonably corrosion resistant. It also has the advantage of relatively low cost.

Many manufacturers of prefabricated equipment, however, prefer to



**RESIDENTIAL PERIMETER SYSTEM** designed to use the following pre-fabricated units: 6 wall registers with head; 6 takeoff fittings; 6 angle boots; 6 dampers; 6 90-degree elbows; 2 flexible elbows; 135' of tube; 8 tube connectors; 12 tube hangers; 1 plenum; 1 return air grille; 4 joist pans.



**SMALL PIPE CEILING DIFFUSER SYSTEM** designed to use the following pre-fabricated units: 6 ceiling diffusers; 6 takeoff fittings; 6 dampers; 6 90-degree elbows; 2 flexible elbows; 80' of tube; 4 tube connectors; 1 plenum; 1 return air grille; 4 joist pans.

Sprague suggests you  
**CHECK YOUR  
CAPACITOR STOCK**

**NOW**

for those sizzling summer repair jobs

Remember last summer? When motors were pooping out all over town? And the phone never stopped ringing?

Well, it's going to be just as bad if not worse this year.

Make a small outlay on motor-starting capacitors *today* and you'll save hours of time picking up replacements. Hours that mean lost profits during the lushest part of the year.

And when you stock Sprague capacitors you'll bank on those profits. For these, the most reliable motor-starting capacitors of all, let you forget about call-backs that cut back profits during the busy season.

**CHECK THESE PROVEN FEATURES:**

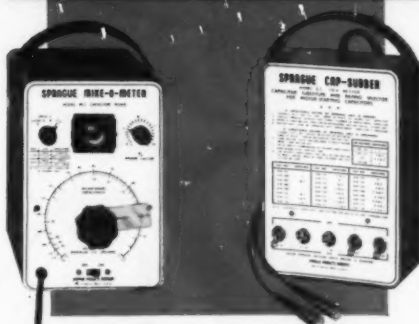
- CHOICE OF METAL OR PLASTIC CASES—replacements for practically every modern motor.
- SPEEDY-CHANGE TERMINALS—dual purpose lug terminals equipped with binding head screws for instant changeover without soldering.
- SMALLER SIZES FOR GREATER UTILITY—reduced physical sizes without sacrifice in quality.
- BROAD RANGE OF STANDARD CAPACITANCE RATINGS AT ALL VOLTAGES—110, 125, 160, 220, 320 volts; no waiting for special orders.
- SPECIAL MOUNTING HARDWARE—for neat and professional-looking replacement jobs.



**DO YOU HAVE ALL THE FACTS ON  
SPRAGUE MOTOR CAPACITOR SERVICE?**

Get the details now on the Sprague 3-step method. When motor-starting capacitors fail, (1) Find the fault quickly with the Mike-O-Meter capacitor analyzer; (2) Restore service immediately with the Cap-Subber capacitor substitute; (3) Cure the trouble permanently with dependable Sprague replacement capacitors. This 3-step plan will make motor service work easier, faster, better. You'll love this . . . and so will your customers! Manual C-910 contains all the facts.

Write for your personal copy to Sprague Products Company\*, 53 Marshall Street, North Adams, Mass.



M-1 Mike-O-Meter  
\$39.50 net

C-1 Cap-Subber  
\$21.50 net

*don't be vague...insist on*

**SPRAGUE**

WORLD'S LARGEST CAPACITOR MANUFACTURER

\*Distributors' Division of the Sprague Electric Co.



sell aluminum, naming the following as some of the reasons:

1. Light weight, works fast, low shipping cost.
2. Lower friction loss due to smoother surface.
3. Corrosion resistant throughout entire thickness.
4. Less heat loss or gain through radiation.
5. Lower sound transmission, permitting higher velocity and smaller pipe size.

Aluminum costs more at the source than galvanized iron, but the lower shipping cost due to lighter weight may make cost on the job about the same.

A recent innovation in the warm air heating field, which gives promise of being widely adapted to cooling and is being used in all year residential systems, is commonly known as the perimeter system.

A small diameter pipe is run directly from the plenum to a specially designed diffuser usually located beneath the window in ex-

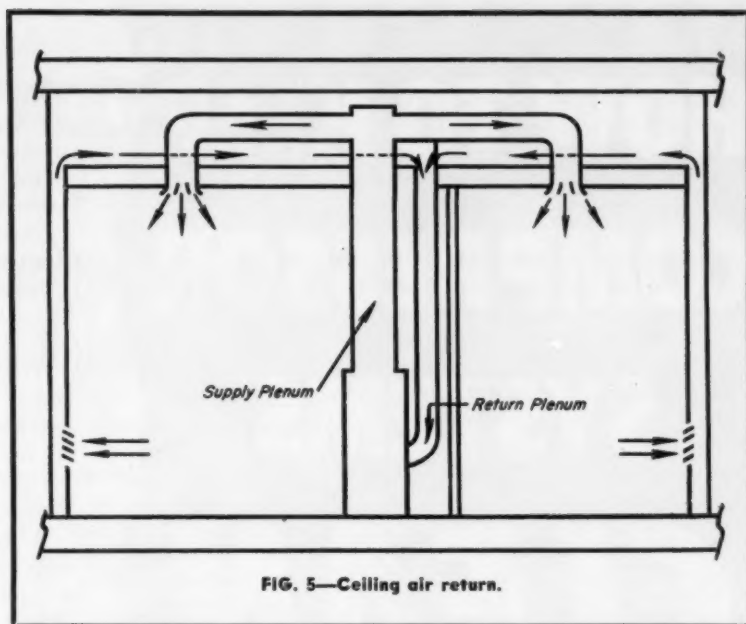


FIG. 5—Ceiling air return.

posed rooms. A separate pipe supplies each room.

The perimeter diffuser is designed to mix a large amount of room air with a small amount of supply air and deliver it across the face of the window where heating (or cooling) is most needed. Ceiling diffusers designed for small pipe connection and embodying the same features are also available.

The rapid and thorough mixing of room with supply air permits the use of hotter or colder supply air and consequently a smaller quantity than with the conventional system. The smaller pipes are easily installed in new or old buildings. The high velocity from the diffuser prevents stratification of air, and temperature differentials as low as 1 degree between floor and ceiling are claimed.

It has been found that a 25-foot length of small pipe will handle 10,000 Btu per hr. of heating, which is adequate for 90% of rooms with residential type occupancy. Where additional capacity is required, another pipe and diffuser is installed.

Some makes have capacities up to 17,000 Btu per hr. per outlet. By controlling the temperature of supply air, it should be possible to handle the cooling load through the same system.

Perimeter systems are practically always of prefabricated pipe and

fittings. Pipe sizes are from  $3\frac{1}{2}$  to  $4\frac{1}{2}$ " round. For a given system, all pipe and fittings are the same size, so a minimum number of different fittings are necessary.

Velocities to 2,000 fpm are permissible, as one supplies air temperatures from 135 to 150 F for heating. Cooling air temperature will depend upon the load. For buildings of two or more floors, a conventional plenum of sufficient capacity is run to each floor and the perimeter pipes are taken from it.

Return registers in all types of prefabricated duct systems are usually connected to spaces between joists which are panned off by sheets. This is called joist panning. Standard sheets are 16 x 48 for one joist or 32 x 48 for two. Sheet insulation is sometimes used for this purpose. Grilles are sometimes placed in doors to permit passage of return air to halls or other rooms having a return air register.

Fig. 2 shows a typical perimeter layout using wall diffusers, and a bill of material for the complete installation. Fig. 3 shows the same building with small pipe ceiling diffusers, such as would probably be preferable for a cooling installation or for a basementless building.

For a rough estimate of material cost at current prices, the installations outlined would run about \$16

*Continued on page 120*

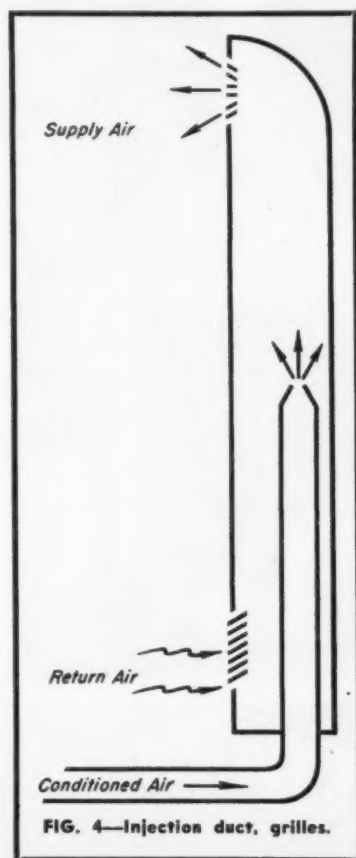


FIG. 4—Injection duct, grilles.

# HOW TO KEEP COMPRESSOR SYSTEMS CLEAN

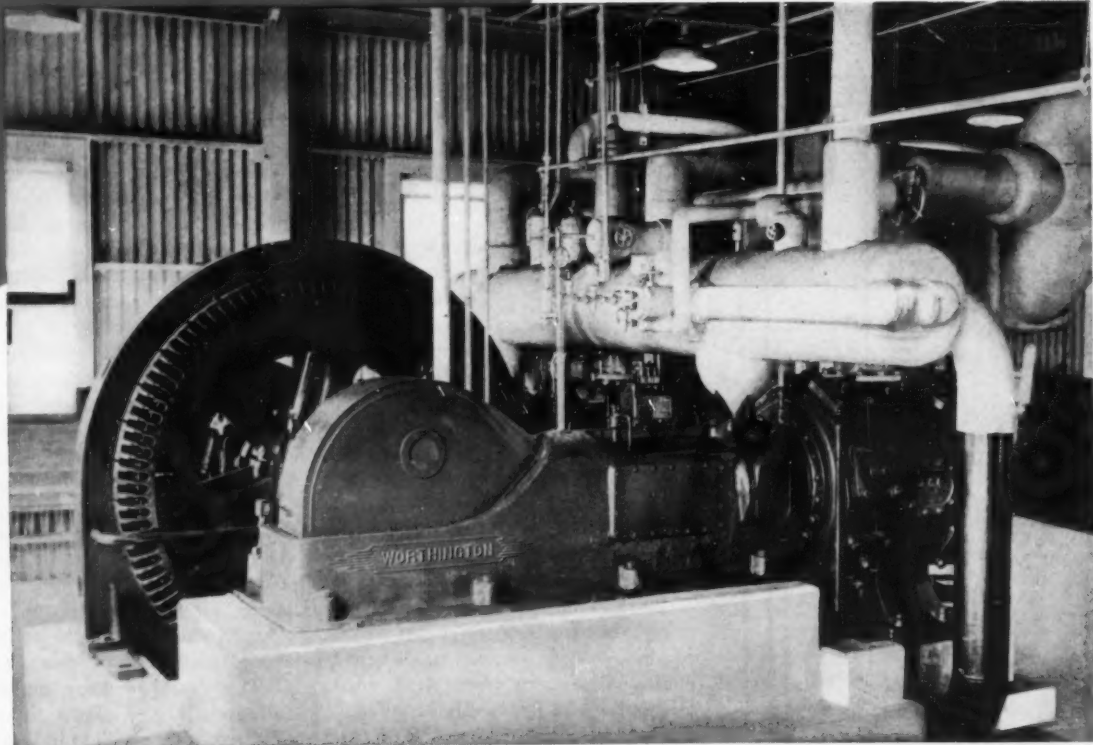
**YOU CAN** best assure clean, efficient, economical compressor performance by keeping wax out of the system. Use *Texaco Capella Oil (Waxfree)* — the oil that *won't precipitate wax* in systems even at temperatures as low as minus 100° F.

*Texaco Capella Oil (Waxfree)* is highly refined and has outstandingly low haze and floc temperatures. You'll also like its high resistance to oxidation and the fact that it is moisture-free and compatible with all refrigerants.

You can get *Texaco Capella Oils* — a complete line of them to meet all requirements — in 55-gallon and 5-gallon drums, 1-gallon cans, and the more widely used grades in 1-quart containers. All are refinery-sealed to protect purity and quality.

A Texaco Lubrication Engineer will gladly help you select the proper oils for your compressors. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write The Texas Company, 135 East 42nd Street, New York 17, N. Y.

Photo courtesy Worthington Corporation



## **TEXACO** Capella Oils (Waxfree)

FOR ALL REFRIGERATING AND AIR CONDITIONING COMPRESSORS

Circle No. 73 on Reader Service Card

JUNE, 1954 •

COMMERCIAL REFRIGERATION

# CONTRACTORS

NEWS • ACTIVITIES • PLANS

## Cooperation of all Contractors Sought By RACCA In War on Unfair Practices

ALL refrigeration and air conditioning contractors, whether or not they are members of RACCA, are being asked by Ray Kromer, executive vice president of the contractors' organization, to cooperate as fully as possible in providing information of unfair trade practices in their territories on the part of ice cream companies. A Federal Trade Commission investigation of alleged unfair practices by ice cream companies is now under way.

In a special bulletin to RACCA members, Kromer points out that RACCA, as an organization, has been requesting FTC action on what it has considered unfair trade practices since 1947, and that it is as a result of these continued complaints that action is now being taken to get to the bottom of the matter.

### Kromer Cites Damage

"The turning point", Kromer says in the special bulletin, "may have resulted from recent projections of damage and detriment to one of the nation's fastest growing and greatest industries.

"In our most recent plan of action we have called attention, wherever possible, to the detriment these practices cause to the growth and progress of an industry that can, in its expansion, very well take up the slack now evident in other industries.

"We have pointed out that price cutting, long-term financing and other practices by ice cream companies, wholesale grocers, etc. have discouraged expansion of sales organizations, and have discouraged our dealers, contractors and salesmen from constructive sales promotion to food store and drug store outlets.

"We have emphasized the need for federal intervention to correct

these detrimental trade policies, to allow for full-scale expansion of the refrigeration and air conditioning dealer and contracting business.

"It is important that all refrigeration and air conditioning contractors and dealers familiarize themselves with our plans and take an active part in bringing this long-awaited activity to a successful conclusion," Kromer says. "It is the responsibility of all members and



non-member contractors and dealers to provide such a wealth of material and evidence that in the final hearing the accumulation of evidence will be so strong that our demands for intervention cannot be denied.

"A favorable decision — a 'cease and desist' order to dairies and ice cream in supplying ice cream cabinets and other refrigeration and air conditioning equipment, component parts and labor to their customers at cost with long-term financing, give-away or lease — will carry over on like practices of wholesale grocery houses and others."

Tentatively, the FTC has scheduled hearings as follows: Jacksonville, Fla., May 4; New York City,

June 8; Los Angeles, June 28; San Francisco, June 30; Portland, Ore., July 5; Seattle, July 7; Chicago, July 12; St. Louis, July 14; Omaha, July 19; Des Moines, July 21. Final hearing is presently set for Washington during the week of July 28.

RACCA's national office has named representative contractors to act as temporary chairmen to head up contractor committees in each city where hearings will be held. These chairmen are to arrange for general meetings of dealers and contractors in their areas to assemble and prepare information to be presented at the hearings. Following the general area meeting, a committee of six representatives is to be selected to supervise the gathering and collating of data and other matters relating to the FTC action.

### Appoint Temporary Chairmen

Temporary chairmen for the various areas have been appointed by the RACCA national office as follows:

**Jacksonville** — Vernon Kelly, Florida Weathermakers, Inc., Jacksonville; Dudley M. Cawthon, Dudley M. Cawthon, Inc., Miami; W. H. Johnston, Sr., Johnston Fixture Co., Inc., Tampa. **New York City** — T. A. Reina, M & R Inc., Brooklyn. **Los Angeles** — Henry B. Ely, Refrigeration & Air Conditioning Contractors Assn. of Southern California, Los Angeles. **San Francisco** — M. M. Smith, Refrigeration & Air Conditioning Contractors Assn. of Northern California, San Francisco. **Portland** — E. S. Matthews, Electro-Kold, Spokane. **Seattle** — W. C. Stone, Refrigeration & Air Conditioning Contractors Assn., Seattle; H. W. Kammerlohr, Air-Flo Co., Salt Lake City; and Matthews.

**Chicago** — Walter McCarty, McCarty Bros. Equipment Co., River Forest, Ill. **Omaha** — Ted Rostock, Arcticaire Refrigeration Co., Kansas City, Mo.; Gordon Lozier, Gordon Lozier Corp., Omaha; Allen L. Mahan, A. L. Mahan Refrigeration Works, Omaha. **Des Moines** — J. L. Fish, Central Electric Co., Davenport; M. A. Leoni, Modern Refrigeration Co., Cedar Rapids; Tom James, James Refrigeration Co., Mason City.

The national committee consists



of Walter McCarty, chairman of RACCA's unfair trade practices committee; George T. Howe, national RACCA president; Dudley Cawthon, a national RACCA director; and Ray Kromer.

Sales of refrigeration and air conditioning equipment and labor nationally totaled better than \$6 billion in 1953, RACCA estimates. "If the loss in equipment and labor sales to our segment of the industry has been 10% per year, this means a total of \$600 million lost nationally to our industry through unfair trade practices in 1953 alone," Kromer's bulletin to members asserts.

"It is not unlikely that with the normal increase of this fast-growing industry and the increased public demand, that a 15% loss could result," Kromer points out. "This would mean a \$1 billion loss in sales in 1954."

#### WASTE WATER DISPOSAL PROBLEM POSED IN L.A.

Although water supply for air conditioning and refrigeration condensing is recognized nationally as an increasingly serious problem, facilities for disposal of waste water can be of equal importance.

Latter problem has become acute in the Los Angeles area, according to the city's Bureau of Sanitation.

In fact, the bureau recently threatened to enforce one of its long-ignored rules prohibiting run-off of clear waste water into the sewer system in excess of 25 gals. per hour.

Prompt protest by the Refrigeration and Air Conditioning Contractors Association of Southern California, Inc., however, resulted in a three month delay of this rule.

A compromise measure has been worked out and is expected to be issued by the sanitation bureau shortly.

"Preliminary discussions indicate that the city may approve for a single occupant a run-off of 200 gals per hour, or the amount necessary to operate a unit or system of 24,000 Btu/hr. For systems of 36,000 Btu/hr or more, a water-conserving device would be installed," the association says.

The city's other goals for the immediate future are (1) the re-

quirement of an Industrial Waste Permit on all connected installations of air conditioning and refrigeration units with a combined capacity of 18,000 Btu/hr or more; (2) installation of an automatic water valve on all systems up to 24,000 Btu/hr.

These two probable requirements are inferred from comments of John H. Ashley, industrial waste engineer in the city's Bureau of Sanitation.

The city, he further indicated, would accept the manufacturer's nameplate rating of 2 tons or 2 hp. as the equivalent of 24,000 Btu/hr for permit purposes.

Discussions bring out the point that the city originally assumed the

#### BOOK REVIEW

Title: *Machinery's Handbook*.  
Author: Erick Oberg and Franklin D. Jones.  
Publisher: The Industrial Press, New York, N. Y.  
Price: \$9.00.

A standard reference work for the mechanical industries. It makes available in clear, concise, ready-to-use form the new and hard-to-get as well as the established standard data and information needed by machine designers, mechanical engineers, tool designers, shop management, and skilled mechanics.

This 15th edition combines all the valuable features of previous editions with the most recent and useful machine-designing and machine-shop data obtainable. It contains 1911 pages of mechanical tables, rules, formulas, and general data. A complete index lists each of the many items contained in its pages.

25 gals. per hour limitation would be sufficient for units of 2 hp. and under. When it became obvious that this amount was quite inadequate for the purpose, the city took a liberal view in interpreting the regulation.

Problems of water supply and disposal regulations are complicated for contractors here by the fact that two sewer systems serve the area, one operated by the city of Los Angeles, the other by the county of Los Angeles.

In addition to Los Angeles proper, the city system serves 11 other cities in the western part of the county and a number of unincorporated communities. Although

the Los Angeles Bureau of Sanitation makes the regulations, enforcement outside the city of Los Angeles must be left to the 11 other cities, while the County Sanitation District takes care of the unincorporated areas.

The association's ordinance committee has been meeting with Bureau of Sanitation officials in working out the problem. Members of the committee are Bob Noll, Don Kissell, Bob Savage, Neal Templin and John Bantick, with Gus Weiss an advisory member.

#### BROWN NAMED TO HEAD LAS VEGAS RACCA

Francis G. Brown has been elected president of the Refrigeration and Air Conditioning Contractors Association of Las Vegas, Nev.

Other officers elected to this new association are Ned Beardon, vice president; Ralph Jefferson, secretary; Merrill Hammond, treasurer; and Dave Sheffield, sergeant-at-arms.

The new association has extended an invitation to the National Association to conduct their next West Coast Regional Convention in Las Vegas.

#### VOLTAGE UNBALANCE PROBLEM ANALYZED BY ENGINEERS

Voltage unbalance aggravated by the widespread use of air conditioning — use of single phase and three-phase electrical current from a single supply — was discussed at the northeastern district meeting of the American Institute of Electrical Engineers by A. S. Anderson, Ebasco Services, New York, and R. C. Ruete, General Electric Co., Pittsfield, Mass.

There is a need "for a definition of unbalanced voltage which will receive industry acceptance," the two engineers told a symposium on transformers and capacitors, after reviewing the problem which arises from the widespread utility practice of serving both single-phase and three-phase loads simultaneously from 120-240-volt four-wire delta secondary circuits.

"The unprecedented growth of three-phase residential and small commercial air-conditioning load in



**WHERE  
SOLENOID**

**SNAKE**



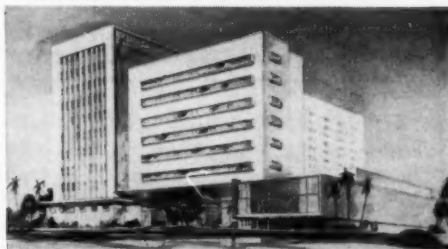
**WOULD DISTURB  
GUESTS' SLEEP**



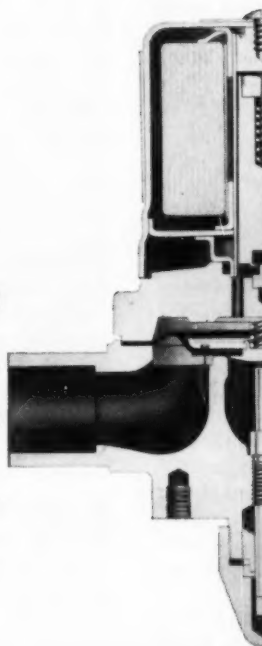
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Air Conditioning by Airtemp Construction Corp



**All J-E Solenoids are  
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for 18 months**

- **TIGHT SEATING**—no bubble tolerance.
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- **LONG LIFE**—cool coils.
- **DURABILITY**—all corrosion-resistant material.
- **OPENING PRESSURE DIFFERENTIAL**—higher than most others on the market.

Each guest room in the ultra-modern Empress Hotel has individually controlled, "personalized" air conditioning. On a job like this the solenoid valves must be rugged and dependable to avoid constant trouble calls . . . and they must operate so quietly as to not disturb the lightest sleeper.

Only J-E advanced design solenoids meet these requirements. Their amazingly simple design has only two moving parts—the main diaphragm and the plunger. There is no impact action or loose mechanical linkage to cause noisy operation.

This permanently quiet operation is just one of the many features that make J-E solenoids superior to any solenoid you've ever used. For complete information on the many ways J-E solenoids can save you time and trouble in controlling Freon, brine, ammonia, steam, water, air and gas, call your wholesaler or write:



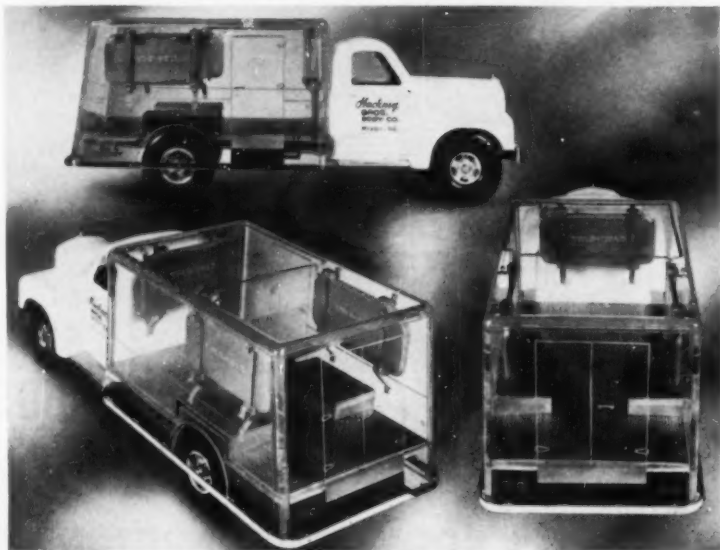
**SOLENOIDS THAT SURPASS THEIR SPECIFICATIONS**

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Controls Division: 4427 Geraldine Avenue • St. Louis 15, Missouri

Circle No. 74 on Reader Service Card

## PLASTIC SCALE MODEL SHOWS TRUCK COOLING UNITS



**MODEL REFRIGERATED TRUCK** was the gift of Tranter Mfg., inc., to Hackney Bros. Body Co. on the occasion of Hackney's 100th anniversary. The refrigerated body, the part Hackney usually builds, is done to scale in clear plastic. The model contains a miniature simulated refrigerating system, complete with refrigerant lines and mounting brackets. Rear and side doors of the truck body—hinges, handles and all—are painted on the plastic material. The entire assembly rests on a piece of beautifully grained wood, bears the legend, "Over 100 Years of Know-How".

our southern states is extending this practice rapidly," they observed. "The practice creates unbalanced load on the three-phase portions of the power system, hence customer service voltage on these systems are generally unbalanced to some degree. A reasonable amount of voltage unbalance should be tolerated to achieve optimum economy considering together all interests of the user, manufacturer and supply utility."

Purpose of their paper was to:

- (1) Present equations for determining the unbalances in voltage in four-wire single and three phase delta secondaries.

- (2) Stimulate interest which may lead to acceptance by manufacturers and utilities of some degree of voltage unbalance in the supply.

- (3) Promote a definition of voltage unbalance in a three-phase system which should eventually receive industry acceptance.

They observed that in the use of motors, electrical engineers frequently make use of the service factor which allows for deviation from rated values of temperature, voltage magnitude, frequency and mechanical load.

"It is customary, however," they

said, "For manufacturers and many utility engineers to assume that the supply voltage is balanced in magnitude and phase angle. In many cases of unsatisfactory motor operation, the utility has been blamed for unbalanced voltage where other deviations from rated conditions frequently not under control of the utility also existed.

Large utility investments in transformer capacity have been made in innumerable such instances where the cost of other corrective measures would have resulted in lesser costs and more satisfactory installations. Acceptance of some degree of voltage unbalance as a fair allocated apportionment of the service factor resulting in a reasonable approach to a minimum overall cost for all concerned should be the aim of a representative national group."

They defined voltage unbalance "as the ratio of negative sequence voltage to positive sequence voltage," terming it the "voltage unbalance factor."

"This," they said, "should be a suitable definition since it is based on the theory of symmetrical components, which concept has greatly simplified calculations involving unbalance."

## NEW ENGLAND FIRM ADDS SALES ENGINEERS

Addition of four new members to its sales engineering staff has been announced by Air Conditioning Engineering Co., Cambridge, Mass.

The new men are Walter J. Fallon, Joseph H. Higgins, James Morong and L. L. Frost. They will call on dealers in the New England states to help them with their air conditioning, heating and ventilating problems.

This expansion in the sales engineering department is the result of requests by dealers for assistance on heating and cooling jobs in this growing industry, according to Ray Sheffield, founder of the company.

## AAA OFFICES COOLED BY 24 PACKAGED UNITS

General Electric Supply Co., G-E air conditioning distributor in Washington, D. C., recently closed the sale of 24 packaged air conditioning units totaling 180 tons of air conditioning for the new American Automobile Association offices there.

Designed by the architectural firm of A. R. Clas, the installation calls for six 5-ton packaged units, twelve 7½-ton packaged units and six 10-ton packaged units, and will be installed by the mechanical engineering firm of Morris and Egan.

A system of multiple packaged units was selected over the central plant type of installation because of lower first cost, ease of installation and the flexibility which a multiple packaged installation gives.

The G-E air conditioners will be installed in the corridors of the building, recessed in the walls with the face of unit exposed but flush with the corridor wall.

## REMINGTON OFFERS TWO SALES AID COLOR FILMS

Two full color strip films with accompanying sound on record have been made available by Remington Corp. to its distributors as a part of a dealer sales training program.

One film describes the benefits of year-round air conditioning and tells the dealer how to sell this

equipment in terms easily understood by average householders.

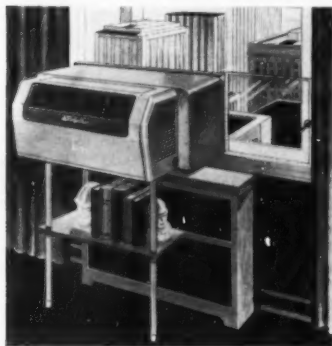
The second film points out sales features of Remington window and console room air conditioners, explains their importance, and suggests how the dealer may merchandise them.

#### "WEATHER CABINETS" AID PAY-AS-YOU-GO COOLING

"Pay-as-you-go" air conditioning is now possible for occupants of hotel and hospital rooms and tenants of apartments or office buildings with the installation of Perfection Stove Co.'s room air conditioner and weather cabinet arrangement.

Perfection's plan is to install permanent weather cabinets in each room to which the air conditioner is brought on a rental basis when needed. The window units, available in  $\frac{1}{2}$ ,  $\frac{3}{4}$  and 1-ton capacities, slide into the weather cabinet in a bureau drawer fashion, automatically cool and heat.

All models fit the same weather cabinet, use the same size filter. A specially-designed utility cart transports the air-cooled room cooler to



the weather cabinet and elevates it so that the conditioner merely slides into the cabinet.

Units are designed so they can be installed inside the window line and do not interfere with building maintenance operations. The window can be completely closed behind the unit, eliminating winter storage problems.

In private homes, weather boxes can be installed in various rooms and a single air conditioning unit transported to the room which most needs the cooling at any given time.

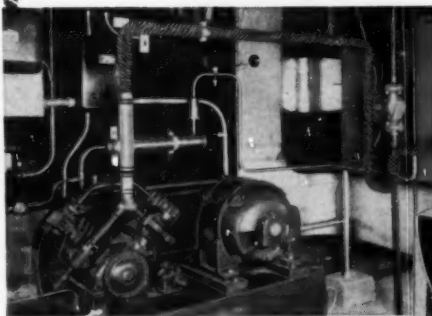
# STOP Condensation Drip Rust and Corrosion

**WITH THIS PLIABLE,  
CORK-FILLED,  
MOISTURE-PROOF,  
SELF-ADHERING  
SEALER**



Cold water pipe or tubing condensation drip is messy, costly, often dangerous. Unheeded, the result is loss of valuable equipment, piping and connections rust and corrode, requiring frequent replacement, and hazardous conditions exist.

NoDrip Tape has been successfully used for years to *correct* and *control* this needless waste. Easily applied by winding spirally around pipes and tubing, NoDrip Tape becomes a *permanent* sealed jacket. No experience necessary, need no brads, fasteners, adhesives, etc. In addition, it holds temperatures more steady, reduces icing and frosting of lines. Equally effective on any pipe or tubing, iron, brass, copper or other alloy. Ideal for refrigerant lines in air conditioning systems, deep freezers, refrigerators, etc.



#### Typical Coverage Per Roll

I.D. Iron Pipe: 10' of  $\frac{1}{2}$ "  
8' of  $\frac{3}{4}$ "  
6 $\frac{1}{2}$ ' of 1"

O.D. Copper Tubing: 13' of  $\frac{1}{2}$ "  
11' of  $\frac{3}{4}$ "  
9 $\frac{1}{2}$ ' of  $\frac{1}{2}$ "  
8 $\frac{1}{2}$ ' of  $\frac{3}{4}$ "

**\$1.69** list a roll Higher west  
of Rockies and Canada.  
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San Gabriel, Calif.



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Unit

In important installations everywhere...units like this are giving the dependable, long-lived service which keynotes Drayer-Hanson products.

When your prospects say, "year-'round air conditioners," compare, feature by feature. You're bound to specify D-H!

With HH's, you can choose your arrangement: horizontal (HH), or vertical (HHV) units. 13 sizes, to 28,000 CFM. Coils for water, steam, direct expansion—or a combination.

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Circle No. 76 on Reader Service Card

100

## USEFUL LITERATURE On Air Conditioning

To obtain the information described below, simply circle on the postcard in this issue the key numbers of the items you wish to receive. We will forward your requests to the companies concerned.

**CONVENTIONAL AND CASEMENT** window room air conditioners are presented for consumer reading in two brochures available from Chrysler Airtemp Div., Chrysler Corp. A small, pocket sized brochure contains material on the casement unit while a 6-page folder presents photographs and describes the conventional window units.

Circle No. 121 on Reader Service Card

**ELECTRONIC AIR CLEANERS** for homes and smaller commercial and industrial building areas are covered in an 8-page bulletin available from Electro-Air Cleaner Co. Describing the "Electro-Air" air cleaners, the bulletin contains the method of operation, construction features, complete specifications and dimensional drawings. Uses of the unit in conjunction with existing warm air heating duct work are illustrated.

Circle No. 122 on Reader Service Card

**AN ADVANCED METHOD** of temperature control for hot water heaters and forced warm air heating systems is presented in a 4-page bulletin describing design and operation features of Spence temperature regulators. Issued by Spence Engineering Co., Inc., the bulletin contains a cut-away view of the regulator showing operating components. Complete description and specifications are also given.

Circle No. 123 on Reader Service Card

**DIAGRAMS AND EXAMPLES** of application with installation photographs show the operation of "Aero" heat exchangers in a 4-page, 3-color bulletin available from Niagara Blower Co. Operational drawings illustrate the heating and cooling cycles of the unit and a cut-away view shows interior components in operation.

Circle No. 124 on Reader Service Card

**MULTI-PORT RELIEF VALVES** for steam, air and gas service are covered in bulletin 5200 released by Cochrane Corp. Charts, diagrams, tables and several plant operating conditions are included. Advantages of this type valve are presented by both drawings and detailed text.

Circle No. 125 on Reader Service Card

**SUSPENDED TYPE** unit heaters with cast iron heat exchangers are described in bulletin 543-B released by the Heating Dept., Dravo Corp. This bulletin describes and illustrates the complete line of commercial and industrial gas-fired warm air unit heaters with 88,000 to 160,000 Btu per hour capacities. Also described is a unit that can be built into duct type heating or air conditioning systems.

Circle No. 126 on Reader Service Card

(More Air Conditioning Literature on page 101)



## AIR CONDITIONING LITERATURE . . .

*Continued from page 100*

**AIR-BORNE PARTICLES** as small as 1/250,000th of an inch in diameter are claimed to be removed from the air through installation of the "Precipitron" electronic air cleaner which is described and illustrated in a 4-page bulletin released by Westinghouse Electric Corp. Various installations are illustrated and necessary service and utility connections are also listed.

Circle No. 127 on Reader Service Card

**TYPICAL APPLICATIONS** and arrangements of jet pumps (ejectors, eductors, exhausters and syphons) are shown in line drawings in the 20-page bulletin presented by Pemberty Injector Co. Bulletin 512 contains a complete description with illustrations of the principle of operation. Tabular information is included for the various styles and sizes described.

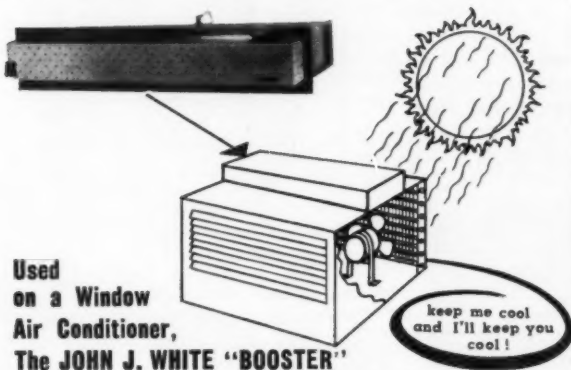
Circle No. 128 on Reader Service Card

**CRAMMED WITH INFORMATION**, specifications, illustrations and application diagrams on commercial and industrial heat exchangers is the 36-page bulletin 533012 available from Taco Heaters, Inc. Dimensional drawings, tables showing capacities in gallons per hour with various steam pressures and other engineering data is also included in this bulletin.

Circle No. 129 on Reader Service Card

*(Turn to page 115 for more Useful Literature)*

## Boost Your Window Cooler Profits With a "Booster"



Used  
on a Window  
Air Conditioner,  
The JOHN J. WHITE "BOOSTER"

- Maintains optimum water level in slinger pan automatically.
- Lowers head pressure.
- Lowers operating cost.
- Permits operation of unit above present outside design operating conditions.
- Increases capacity.
- Lowers unit operating noise level.

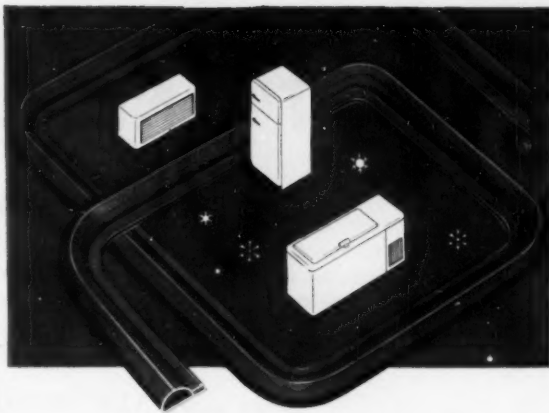
*If Your Unit Is In A "Sun" Window, It Can Use A "Booster"*

**John J. White INC.**

800 McCarter Highway

Newark, New Jersey

Circle No. 78 on Reader Service Card  
and AIR CONDITIONING • JUNE, 1954



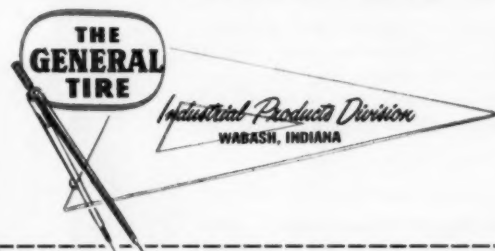
## Catching Cold Can Be Made to Order!

Here are custom refrigerator gaskets that can be put to work for you . . . catching cold and holding it! The Industrial Products Division of General Tire provides a completely packaged service for designing, developing and producing components for end use in your equipment. Rubber and plastic door gaskets, molded rubber products and numerous other sponge and plastic items can be tailor-made right down to the most exacting specification.

Whether the job calls for squelching vibration, smothering noise, or sealing cold air in, General Tire Industrial Division has the plant capacity and the skilled men to handle the product assignment.

For descriptive literature or an immediate contact from one of our representatives, just fill out the coupon below.

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CR-4-54

Circle No. 77 on Reader Service Card

# WHAT'S NEW...

## in Air Conditioning Equipment

For further information on any of these products, simply circle on the postcard provided in this issue the key numbers of the items in which you are interested. Your requests will be forwarded directly to the companies concerned.

(For more NEW PRODUCTS turn to page 72)

### Motorpump

**Product:** Model  $\frac{3}{4}$  KRVS "Motorpump" for air conditioning applications.

**Manufacturer:** Ingersoll-Rand Co., New York, N. Y.

**Features:** Centrifugal pump is single-stage, 3450 rpm unit with a keyed, cap screw type impeller attachment for positive fastening. Smooth bronze, die case balanced impeller has built-in shaft sleeve to prevent motor shaft corrosion. Standard jet pump motors  $\frac{1}{3}$  through 1-hp are used. Pump de-

bearings. Suction and discharge reeds are of fine Swedish steel. Field-proved valve plate is kept cool



through use of an exclusive cooling system. V-type compressor has 4 cylinders.

Circle No. 182 on Reader Service Card

a 1-hp model. Conditioners are powered by spring-mounted hermetically sealed Servel electric refrigerating units. Use  $\frac{1}{12}$ -hp fan motors. Cooling capacity for  $\frac{3}{4}$ -hp unit is 8500 Btu/hr, for 1-hp unit 10,500 Btu/hr.

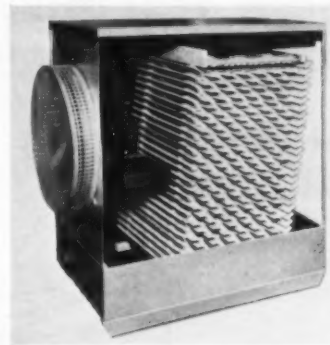
Circle No. 183 on Reader Service Card

### Cooling Towers

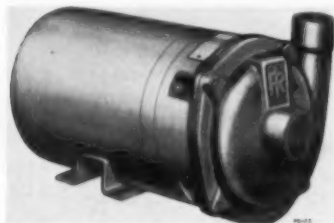
**Product:** Line of cooling towers.

**Manufacturer:** Bush Mfg. Co., West Hartford, Conn.

**Features:** Propeller-fan type



cooling towers are applicable for residential and commercial air conditioning installations. Available in capacity range from 2 to 15 tons. Constructed of nail-less all-heart redwood. Special coatings provided give all-weather protection. Galvanneal panels are zinc chromate prime coated inside and out, then rubber undercoated outside and inside with vinyl-base paint of high chlorinated rubber content. Standard 110 V, single phase 60 cycle motor. Motors are totally enclosed, have built-in overload protection. Motors, fans, and drives are of sufficient capacity to handle average ductwork for in-



livers capacities to 48 gpm at heads to 100'. Mechanical seal consisting of a rotating ceramic face against a stationary "Teepelite" face prevents stuffing-box drips and eliminates motor overloads.

Circle No. 181 on Reader Service Card

### High Speed Compressor

**Product:** Model 84 high speed compressor.

**Manufacturer:** Copeland Refrigeration Corp., Sidney, Ohio.

**Features:** Designed for automotive or other high speed applications, the belt-driven compressor can be operated from  $\frac{1}{2}$  to 3-hp. Forced-feed lubrication system operates efficiently with the shaft turning in either direction. Compressor has solid bronze rods and main

### Room Coolers

**Product:** "Wonderair" room air conditioners for standard windows.

**Manufacturer:** Servel, Inc., Evansville, Ind.

**Features:** Single simple dial



controls all functions of the units, including a special "night turn-down" setting. Four no-draft grilles rotate to 4 different positions, permit home-owner to direct conditioned air in any direction. Reverse-cycle heat-pump action is also available to provide heating for chilly days. Offered in 2 sizes: a  $\frac{3}{4}$  and

door installation if desired. Distribution pan, top and fan guard are easily removable for quick access to internal parts.

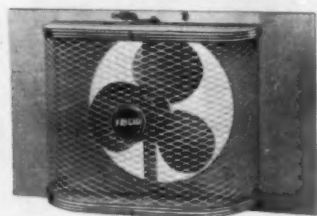
Circle No. 184 on Reader Service Card

#### Window Ventilator

**Product:** Model FR-12-N reversible window ventilator.

**Manufacturer:** Frigid, Inc., Brooklyn, N. Y.

**Features:** Exhausts inside air and intakes outside air by simply changing position of the lever. Ventilator does not have to be removed from the window. It is fully enclosed, safe, and adjustable from 26 to 28". Will fit into any window,



is easy to install. Will not interfere with functioning of window or screen. Dirt or rain will not affect the motor. Equipped with a 11' heavy duty cord, with feed through switch. Portable ventilator is finished in baked white enamel with chrome trim. Powered by a 4-pole heavy duty motor.

Circle No. 185 on Reader Service Card

#### Conditioner Timer

**Product:** Tork 1919-GSK air conditioner timer.

**Manufacturer:** Tork Clock Co., Inc., Mt. Vernon, N. Y.



**Features:** Converts any room cooler into fully automatic unit without costly installation. Plug timer into AC outlet, air conditioner plugs into timer. Set "on" tripper

of 24-hr. dial for time desired for start of daily operation, set "off" tripper for the time conditioner is to stop to complete installation of timer. On days in the week when conditioner will not be used, calendar wheel combined with 24-hr. dial allows skipping of designated days while maintaining pre-set operation on other days. Seven-armed wheel has provisions for set-screws, supplied with the timer. Insertion of a screw into the proper arm prevents conditioner from operating on day

chosen. Each arm is marked for a different day of the week. Manual switch for on-off control is included. Circle No. 186 on Reader Service Card

#### Packaged Cooler Line

**Product:** Models JAC 200, 300, 500, 750, and 1000 self-contained air conditioning units for commercial or industrial applications.

**Manufacturer:** Jordon Refrigerator Co., Philadelphia, Pa.

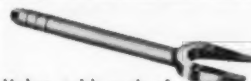
## Mechanics who use this Bonney Tool tell us it belongs in every kit...



Bonney 1252  
Sporlan Expansion Valve  
Wrench 30° head;  
1 5/8" opening; 7 3/4" long

Here are two more mechanics' favorites from the complete line of Bonney Tools designed specifically to meet the needs of refrigeration mechanics and service men.

#### BONNEY P319 FORKED-WEDGE SEPARATOR



Makes quick work of removing pulleys. The Separator is inserted between pulley hub and compressor or motor housing after the set screw is backed off. A few taps on the end of the Separator brings the pulley off the shaft.

#### BONNEY RF-7 VALVE STEM SOCKET



A 1/4" male drive socket especially designed for use on Frigidaire valves.

This thin open-end wrench is designed to make it easy to remove power element from the body of Sporlan Expansion valves. Available with 30° head and short handle, or straight head and long handle. Openings: 1 1/8", 1 3/8", 1 1/4", 1 5/8".

Mechanics depend on Bonney for tools like this which help them do a faster, better job of servicing refrigeration equipment. It's this mechanic preference that makes Bonney the leader in the refrigeration field.



BONNEY FORGE & TOOL WORKS • ALLENTOWN, PENNSYLVANIA

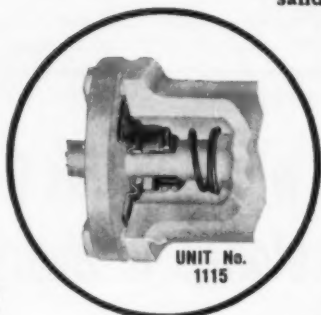
Circle No. 79 on Reader Service Card

## ROTARY SEAL

## Replacement Units

EASY TO  
INSTALL  
ECONOMICAL  
EFFICIENT IN  
OPERATION

The original replacement units—  
performance-proved in many thou-  
sands of installations  
during almost a  
quarter century.



Available in a  
wide range of  
sizes for Com-  
mercial, Semi-  
Commercial,  
Air Conditioning  
and Household  
Refrigerator Compressors.

"Seal with Certainty!"

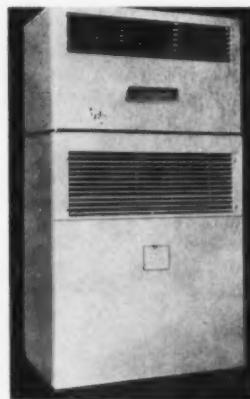
2020 NORTH LARRABEE ST.  
CHICAGO 14, ILLINOIS, U.S.A.

CANADIAN AGENT: 2025 ADDINGTON AVE., MONTREAL 28, QUEBEC

AT ALL  
LEADING  
JOBBER'S



**Features:** Five sizes are 2, 3, 5, 7½ and 10-tons, designed to fit into installation with only simple electric and water connections necessary before operations. No duct work necessary. Cooling and blower sections have front air return and air discharge grilles. Air discharge grilles are adjustable to direct air up or down or to either side. Completely automatic operation. Cen-



trifugal type fan has oil-less bearings for trouble-free operation and is cushion mounted for silent operation. Low speed condensing unit operates at lower rpm, meaning less wear and tear and use of less water. Cooling capacities range from 24,500 to 121,000 Btu/hr. Compressor carries 5-year warranty, 1-year warranty carried on replacement of parts or defective material or workmanship.

Circle No. 187 on Reader Service Card

# WHY? TIME CONTROLS for AIR CONDITIONERS

..THE PUBLIC DEMANDS IT!



Model No. 1919GSK  
24 Hour Plug-in  
Up to 1 H.P.  
Selective Days

- Automatic 'ON' and 'OFF' WHEN DESIRED. Adds Comfort and Economy.
- Automatic Skip Certain Days Weekly. A Must for Professional People.

\* \* \*

A complete 24 Hour DAILY REPEAT  
Portable-Plug-in Control.  
Simple to connect.

So Little Added Cost for so Much  
Added Comfort. Make Real Boosters  
for YOUR LINE.

The Accessory  
You Have Been  
Looking For.

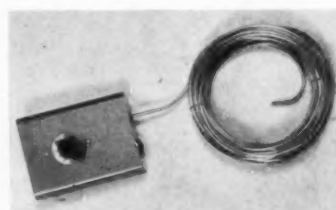


WRITE FOR FULL  
DETAILS IN OUR  
FREE BULLETIN!  
NO. 354

**TORK CLOCK CO.** MOUNT VERNON  
NEW YORK

### Heating Regulator

**Product:** 3-way "Weather-Flo" small home heating regulator.



**Manufacturer:** Automatic Devices Co., Western Springs, Ill.

**Features:** Regulator affords constant comfort by changing indoor temperatures as outdoor temperatures change. Unit measures both indoor and outdoor temperatures, burner is operated just enough so



**"It SPELLS OUT the Answer"**

**NEW**

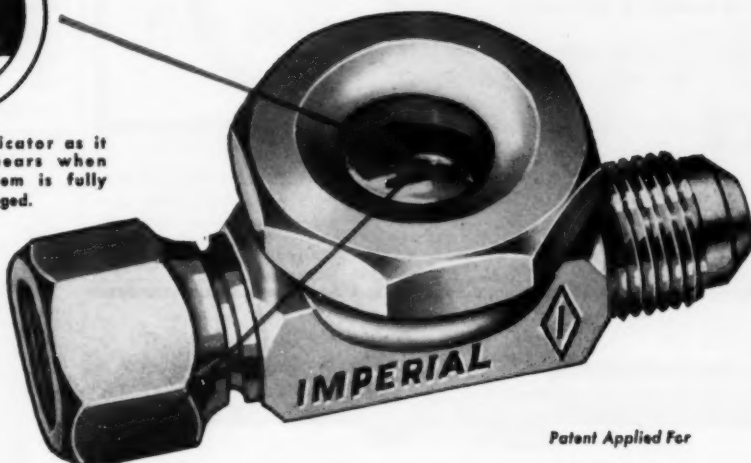
**IMPERIAL  
"MAGIC-EYE"\***

**LIQUID INDICATOR**



**FULL**

Indicator as it appears when system is fully charged.



Patent Applied For



**EMPTY**

Indicator as it appears when there is an insufficient amount of refrigerant.

**LEAKPROOF...TROUBLE-FREE**

When the 'Magic Eye' says "FULL" you know the system is fully charged. When the word "FULL" disappears you know there is an insufficient amount of refrigerant in the system.

No squinting or guessing. The Imperial "Magic-Eye" Liquid Indicator *SPELLS OUT* the answer every time.

Indicator is foolproof, leakproof; built to time-proven design. Husky, forged brass body cannot be distorted in assembly. Heavy glass in port hole has positive seal with confined sealing medium.

**LIST PRICES**

Fem. Flare Swivel  
X Male Flare

Male Flare

\*T.M.

No. 271-C  $\frac{1}{4}$ " x  $\frac{1}{4}$ " ....\$2.75  
No. 271-C  $\frac{3}{8}$ " x  $\frac{3}{8}$ " .... 2.90  
No. 271-C  $\frac{1}{2}$ " x  $\frac{1}{2}$ " .... 3.25

No. 270-C  $\frac{1}{4}$ " x  $\frac{1}{4}$ " ....\$2.65  
No. 270-C  $\frac{3}{8}$ " x  $\frac{3}{8}$ " .... 2.75  
No. 270-C  $\frac{1}{2}$ " x  $\frac{1}{2}$ " .... 3.25

**See Your Jobber**

THE IMPERIAL BRASS MFG. CO., 534 S. Racine Ave., Chicago 7, Ill.  
In Canada: 334 Laurier Ave., Toronto, Ontario

**IMPERIAL**

FITTINGS • VALVES • DRIERS • FILTERS  
FLOATS • CHARGING LINES • TOOLS for  
Cutting, Flaring, Bending, Pinch-off, Swedging



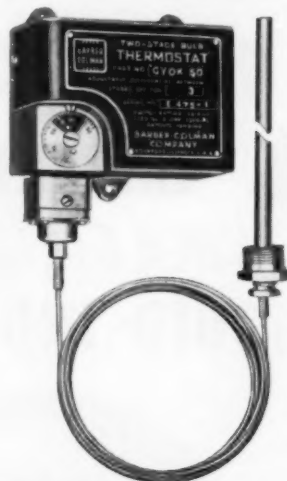


REMOTE BULB

## Two-stage Thermostat

### For air or chilled water

- Provides two-stage (on-off) control of two compressors, a compressor and unloading device, or two solenoid valves in sequence
- Unique feature—differential between stages is adjustable
- Single-pole, double-throw, snap-acting switches
- May be mounted in any position
- Provision included for locking setting at any temperature



#### ASK

For bulletins T-3 and F-4516—they contain complete specifications.

Consult nearest Field Office or write:

**BARBER-COLMAN COMPANY, ROCKFORD, ILLINOIS, U.S.A.**  
 Dept. F, 1338 Rock Street • Field Offices in principal cities  
 Automatic Controls • Air Distribution Products • Industrial Instruments  
 Aircraft Controls • Small Motors • Overdoors and Operators • Molded  
 Products • Metal Cutting Tools • Machine Tools • Textile Machinery

that the temperature of the air or water circulated is raised only high enough to offset the resultant heat loss. Unit works equally well on gravity or forced flow, warm air or hot water heating systems. Requires 1/2-hour installation on existing burner, saves up to 15% on fuel. Eliminates hot-cold, hot-cold heating characteristic of ordinary room thermostat control.

Circle No. 188 on Reader Service Card

### Summer Coolers

**Product:** Six models of residential air conditioners.

**Manufacturer:** Armstrong Furnace Co., Columbus, Ohio.

**Features:** "Companion" units harmonize in appearance with Armstrong upright winter air conditioning furnaces. "Duct Coolers", built to be installed directly into warm air ducts serving the furnace, are actually horizontal units, particularly suitable to horizontal and counterflow furnaces. Can be used with any furnace equipped with a



**NOW...**

## LIQUID EYE® Indicators for Units Up to 30 Tons of Refrigeration

Years of development and field testing has proven the Wittlin patent construction in the larger sizes to be far more reliable than any other means of sealing against leaks.

ALL LIQUID EYE indicators manufactured by the Allin Mfg. Co. under existing and applied for patents make use of spring pressure applied to the gasket to provide a uniform and positive seal between gasket and glass. Streamline flow assures a true analysis of the refrigerant charge. Turbulent flow is virtually eliminated because of the tubular glass through which the refrigerant passes.

AVAILABLE THROUGH LEADING WHOLESALERS EVERYWHERE



**Allin**

MANUFACTURING COMPANY

1153 W. Grand Ave.  
 Chicago 22, Illinois

Circle No. 83 on Reader Service Card

blower. Companion models have self-contained blowers. Completely automatic plenum chamber as standard equipment, directs air flow through air conditioner or furnace. Made in 2 and 3-ton sizes. Rubber mounted blower on "Package Unit" delivers air over large areas. Air outlet grille has both horizontal and vertical vanes which can be individually set. Refrigerant circuit is hermetically sealed, including compressor, condenser, motor, tubing and valves. Need only to disconnect water and power lines to remove entire refrigeration unit.

Circle No. 189 on Reader Service Card

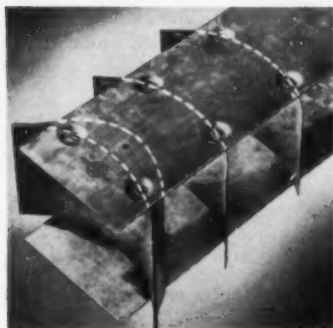
**BUY FROM YOUR  
 REFRIGERATION WHOLESALE**

### Vane Runner

**Product:** "All-Tite" vane runner.

**Manufacturer:** Elgen Mfg. Corp., Long Island City, N.Y.

**Features:** Claimed to be quickest, easiest method for installing vanes in square elbows of air conditioning and forced draft heating ducts. Exclusive slotted knobs. Vane runners are made of 24-gage galvanized steel. Vane runner engineered



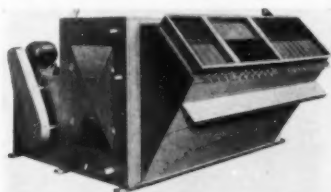
to accommodate either single or double blades. Eliminates punching, notching, riveting, spotwelding and layout. Requires no special chisels or tools. Vanes are locked in a few seconds with shears or hammer. Assembled unit easily fitted in elbow, fastened with screws. Completely rigid and rattle-proof. Runner is delivered in 8' lengths, 20 strips per bundle. Blades for vane runner can be cut from scrap. Double blades are formed with flanges as shown in the illustration.

Circle No. 190 on Reader Service Card

### Multi-Zone Conditioner

**Product:** "Flexazone" central-plant air conditioner.

**Manufacturer:** Drayer-Hanson, Inc., Los Angeles, Calif.



**Features:** Specifically engineered for multi-room applications where independent, variable cooling and heating is desired. Unit consists of three major parts; blower section, coil section and damper section. Unit can be field-

assembled in 24 different ways, depending on available space. Special damper arrangement enables addition or changing of zones at any time in the field. Horizontal or angular air flow is possible. Incoming air is blown past the heating and/or cooling coils and is discharged through individually controlled dampers in separate air streams in varying temperatures. Cooling coils for use with water or direct expansion refrigerant are furnished. Standard steam coils available for heating. Heating coil

is over 60% of the cooling coil face area. Capacities range from 1300 to 24,000 cfm.

Circle No. 191 on Reader Service Card

### Console Type Cooler

**Product:** "Airditioner" console type air conditioner.

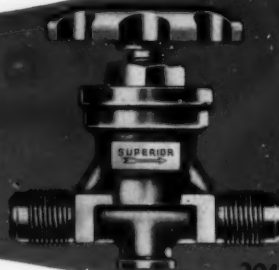
**Manufacturer:** Modine Mfg. Co., Racine, Wis.

**Features:** Available in three sizes with nominal cooling capacities of  $\frac{2}{3}$ ,  $1\frac{1}{2}$  and 2-tons, condi-

## Two Money-Savers from the Superior family of fine valves

### Line Valves

2 way, 3 way, Angle  
in flare and sweat connections



204

Rugged, job-engineered globe and line valves by Superior are an asset to any refrigeration system. You start to save money from the very day you specify Superior because you get quality without a premium price tag. And faithful, dependable service from each valve adds to the savings for years to come. *Be specific, ask your wholesaler for Superior Valves!*

### Globe Valves

sizes— $\frac{1}{8}$ " thru  $4\frac{1}{2}$ "  
also angle and globe check



490

## Superior valve and fittings co.

Pittsburgh 26, Pa.



Circle No. 85 on Reader Service Card

tioners are designed for cooling and heating of individual rooms in homes, hotels, apartments, offices, hospitals, etc. Chilled water is used for cooling; hot water for heating. Each unit served by only 3 pipes; water supply and return, and drain.



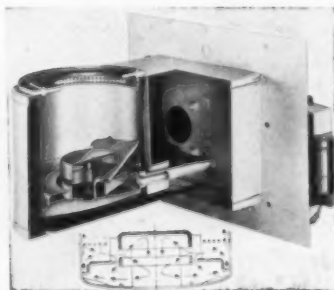
Fresh outside air for ventilation is introduced through an aperture in the rear of the unit. Adjustment of manually controlled damper controls mixture of fresh and re-circulated air. Equal adaptability to fully exposed or partially recessed installation. Unit can be recessed up to 5" leaving only 6" protruding into room. Units are provided with air filters, adjustable fresh air mixing dampers, 3-speed motor control, high capacity reversible coil, twin access doors and manually removable enclosure fronts.

Circle No. 192 on Reader Service Card

#### Oil Burner

**Product:** "Cat-O-Lyzer" oil burner for domestic use.

**Manufacturer:** Gilmore Burners, Inc., Cleveland, Ohio.



**Features:** UL approved unit with "complete combustion" provides operational economy, efficiency, cleanliness, safety and service-free performance. Produces

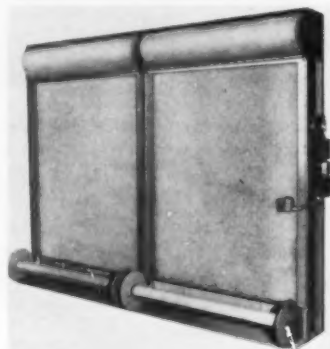
hard, clean, high temperature flame burning catalytic fuels as well as distillates. Vapor-pressure combustion characteristics eliminate transition stage smoke or haze. Packaged unit for furnaces or boilers of up to 75,000 Btu per hour loss units, or about .7 gph. Perfectly safe to ignite in a "puddled" condition. Chokes itself to normal firing rate plus only 5 to 10% with no smoke during the burnoff. Conversion-type burner operates on low-input oil pilot or a natural gas pilot in areas where there is limited natural gas. Vertical flame of the burner releases more usable radiant heat. Circle No. 193 on Reader Service Card

#### Self-Cleaning Filter

**Product:** "Roll-O-Matic" automatic self-cleaning air filter.

**Manufacturer:** American Air Filter Co., Inc., Louisville, Ky.

**Features:** Filtering media is continuous length of glass fiber material, supplied in rolls of about 70 linear feet. Material from the roll



mounted at the top filter casing is transported on a continuous screen which rotates over top and bottom sprockets, down the face of the filter and is re-rolled at the bottom after collecting the dust load. Pressure switch sensitive to the resistance differential across filter curtain actuates a drive motor which rotates the screen and feeds clean media into the filter curtain when the resistance reaches a certain point. Media usage is in direct proportion to dust conditions and hours of operation. Tests indicate that under normal conditions a single roll of media is about a year's supply per 10,000 cfm of filter capacity. Media material is composed of continuous strands of

slightly curled and interlaced glass fibers. Filter unit is made in vertical sections 3, 4, and 5' wide in heights from 5 to 15' in 4" increments. One drive mechanism operates from 3 to 6 sections depending on their height.

Circle No. 194 on Reader Service Card

#### Inner-Fin Chillers

**Product:** Line of inner-fin chillers for use in chilled water air conditioning systems.



**Manufacturer:** Heat-X-Changer Co., Brewster, N. Y.

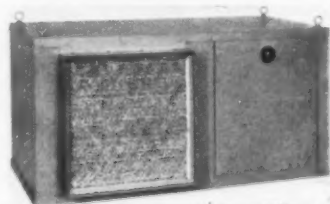
**Features:** Incorporation of inner-fin construction permits making of most compact shell and tube chiller. Copper inner-fins in refrigerant passages greatly increase heat transfer efficiency, simultaneously permits smaller size, lower cost. Completely non-ferrous water passages prevent corrosion problems. Refrigerant side is single-pass type to eliminate oil trapping problems. Selection of water baffle spacings is available to meet wide range of water pressure drop requirements. Rock cork insulation is available on all sizes.

Circle No. 195 on Reader Service Card

#### Ceiling-Mounted Cooler

**Product:** Series "O" ceiling-mounted air conditioner.

**Manufacturer:** Barkow Mfg. Co., Milwaukee, Wis.



**Features:** Self-contained unit contains hermetically-sealed compressor, capillary system and inexpensive throw-away filters. The 2-ton unit exceeds rated capacity, produces 28,000 Btu, or 4000 Btu over



**A**s the market for air conditioning  
grows so much bigger . . . . .

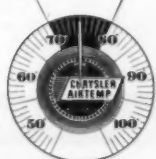
12

IT PAYS  
TO SELL  
with the  
LEADER!

## Significant "Firsts" by CHRYSLER AIRTEMP give its dealers exclusive selling advantages!

- **"Packaged" Air Conditioner** compact, self-contained; it revolutionized the air conditioning industry.
- **High-Speed Sealed Radial Compressor** super quiet, super efficient, more cooling from fewer pounds of metal.
- **Combination Heating and Cooling for Year 'Round Residential Air Conditioning** a balanced combination of heating and cooling equipment, providing conditioned air for the entire home every month in the year.
- **Central Station Radial Compressor** uses less space, more quiet operation. Costly foundations eliminated.
- **Starting Unloader and Capacity Regulator** compressor starts without load, capacity automatically adjusted to varying loads at all times.
- **Maxi-Fin Cooling Coil** a vital improvement in "Packaged" Air Conditioners, greater efficiency.
- **"Airfoil" Grille** quietly provides unlimited air distribution adjustments, vertically and horizontally.
- **Re-Circulating Water Saver** permits re-circulating and cooling condenser water without make-up.
- **Air-Cooled Air Conditioning** operates without water at peak efficiency, solves all problems of water supply and expense. Costs less to install because it does not require plumbing.
- **5-Year Compressor Warranty** covering replacement, freight and labor... made possible by fine record of the exclusive Radial Compressor.
- **High-Capacity Car Air Conditioning** gives motorists a quicker "cool down" on hot summer days.
- **Casement Window Room Air Conditioner** installed inside without removing glass or cutting frame; nothing interferes with operation of window.

Comfort Zone



# CHRYSLER AIRTEMP

HEATING • AIR CONDITIONING  
FOR HOMES, BUSINESS, INDUSTRY

Airtemp Division, Chrysler Corporation, Dayton 1, Ohio

required output. Unit is mounted to the ceiling or can be installed in the attic. Designed to be used for free discharge or attached to a duct system. Available in 2 or 3-ton sizes with or without blower. Unit is shipped completely assembled, ready for fast, simple installation. Dimensions are 25" wide, 25" high, 49 1/4" long.

Circle No. 196 on Reader Service Card

#### Year-round Conditioner

**Product:** Year-round 2 or 3-ton residential air conditioner.

**Manufacturer:** Worthington Corp., Harrison, N. J.

**Features:** Year-round control is accomplished by a one-point control from a centrally located thermostat. Claimed to require less floor space than any other 2 or 3-ton heating and cooling unit on the market. Will fit through any standard 30" doorway. Available with either gas or oil-fired furnace. Entire unit is thermally and acoustically insulated with aluminum-faced glass fiber. Powered by a hermetically sealed Worthington compressor.

Furnace heat exchanger is ceramically coated for corrosion resistance and quietness. Entire cool-



ing section fits into the bottom of the cabinet.

Circle No. 197 on Reader Service Card

#### Window Cooler

**Product:** Model 150 WAC "Vornado" self-contained window air conditioner.

**Manufacturer:** O. A. Sutton Corp., Wichita, Kan.

**Features:** Air is directed into room at 1400 fpm through 3 air circulators. Circulators rotate 360 degrees, tilt up or down and cause air to completely circulate throughout large areas without creating drafts. Push-button control system is standard equipment. Exhaust and damper doors are controlled by electric solenoids. This 1 1/2-hp unit is capable of removing up to 13 1/2 gallons of water from the air in 24 hours.

Circle No. 198 on Reader Service Card

#### Conditioner Covers

**Product:** "Defender" air conditioner covers.

**Manufacturer:** Defender Textile Corp., New York, N. Y.

**Features:** Available in waterproofed vinyl coated nylon, heavy gauge vinyl coated plastic, and heavy water-proofed canvas. Waterproof plastic binding on all seams. Cover doubly secured with 1000 lb. test 3/8" nylon braid. Available in 20 different sizes to insure perfect fit on all models.

Circle No. 199 on Reader Service Card

## SELF-CONTAINED

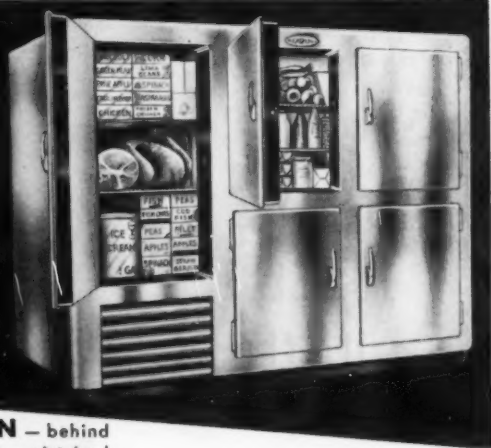
## DUAL-TEMPERATURE REFRIGERATOR and FREEZER

Save Space • Save Steps  
Save on Installation

A Full-Size Refrigerator  
And a Full-Size Freezer  
In One Unit



Illustrated  
SF 80-31-5 - 80"  
long, Freezer Section Capacity: 11.5 cu. ft. Refrigerator Section Capacity: 49.0 cu. ft.



**FREEZER SECTION** — behind separate door. Temperature maintained at 0° to -10° F. A full 4" of insulation separates freezer food section from standard refrigeration section. Freezer section lining consists of zinc metallized double wall plates. One adjustable Aluminum shelf provided in addition to one non-adjustable cold plate upper shelf. Sizes range from 4.1 cubic feet to 12.5 cubic feet.

**REFRIGERATOR SECTION** — provides independent moist-cold refrigeration at 36° F. by means of Hi-Humidity Coil. Entire refrigerator section in Stainless Steel as are exterior front and both ends of entire unit. Capacities range from 7.2 cubic feet to 58.3 cubic feet.

- Self-Contained models operate off a single Low-Temperature Compressor with necessary control valves. 5 year Warranty on sealed compressor.
- 100% metal construction, including doors.
- 15 different self-contained and 8 remote control units available to fit any size establishment.

Sold thru Leading Hotel and Restaurant Supply Dealers. Write for Literature.

STAINLESS FOOD EQUIPMENT CO. • NEWARK 3, NEW JERSEY



UP TO  
**95%**  
WATER  
SAVINGS



WITH  
*McQuay*  
COOLING  
TOWERS

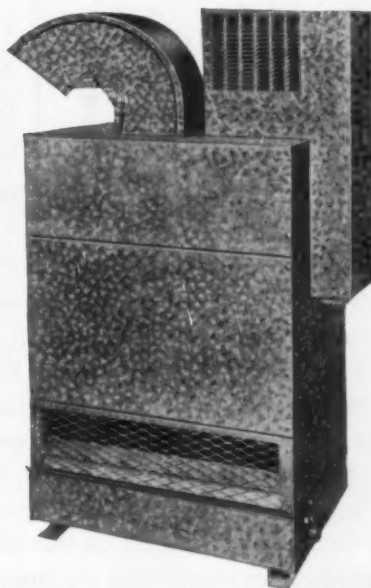
Install **McQuay Cooling Towers** for low cost water cooling, minimum sewage costs, and protection against the water shortages that have developed in so many cities.

McQuay Cooling Towers are ideal water coolers for residential, commercial and industrial applications such as: condenser water, jacket water, air compressors, etc. Operation is quiet, dependable, economical. Centrifugal type fan and self-cleaning low pressure spray nozzles provide large quantities of air and water at low power demand. Only a small amount of fresh make-up water is required by these efficiently designed units. Provision is made for periodically adding fresh water to prevent excessive build-up of industrial fume concentrates and salts.

See your McQuay refrigeration wholesaler or write McQuay Inc., 1643 Broadway N.E., Minneapolis 13, Minn.

#### COLDER WATER

is obtained with the new McQuay Cooling Tower. The expanded metal deck provides an unusually large wetted surface area over which cascades an abundant water flow, thereby providing optimum wet bulb approach. Colder water means peak compressor operation.



*McQuay* INC.



AIR CONDITIONING • REFRIGERATION • HEATING

Circle No. 10 on Reader Service Card

# FIRST with all the best features!

**ONLY THE COMPLETELY NEW  
Model B-200**

*Crystal Tips or Chips*  
**AUTOMATIC ICE MAKER  
GIVES YOU ALL IN ONE!**



		OTHER ICE MAKERS					
		A	B	C	D	E	F
2-in-1 (Cube or Crushed Size Ice)	YES	No	Yes	No	No	No	No
24-hour Storage Bin Capacity	YES	No	Yes	No	No	No	No
Cubes Individually Frozen	YES	Yes	No	No	Yes	No	Yes
Large (Over 6/10 oz. size cubes)	YES	Yes	No	No	Yes	No	Yes
Location Convenience (under-counter design)	YES	Yes	No	Yes	Yes	Yes	Yes
Compactness (less than 6 sq. ft. floor space)	YES	No	Yes	No	Yes	No	Yes

Compare and you'll find there's nothing on the market to equal the all-new 2-in-1 Crystal Tips or Chips Ice Maker. For versatility, convenience, economy, simplicity and attractive design, the Model B-200 is in a class all by itself. Simple to install—air cooled, just plug in, uses 1/4" supply and minimum drain. Every business and institution that is a user of ice is a prospect for the complete ice service this unit offers.

Investigate the profit possibilities for you. CRYSTAL TIPS has a future—why not share in it?



**AMERICAN AUTOMATIC ICE MACHINE CO.**  
1793 FOURTH STREET N. W. FARIBAULT, MINN.

A Subsidiary of McQuay, Inc., Manufacturers of Heat Transfer Equipment Since 1923

Circle No. 25 on Reader Service Card

**JUNE, 1954 • COMMERCIAL REFRIGERATION**



## A GROWING MARKET . . .

*Continued from page 87*

roof in conjunction with the system.

One of the unusual and economical aspects of the system is the temperature control set-up. Each office can be individually controlled according to the heat load, but in addition, all of the units are centrally controlled by a time-clock system located in the basement. These timers shut off the conditioners at 6:00 p.m. in the evening and turn them on again at 7 a.m. the next morning. This factor alone means an important saving in water and electrical expense, plus wear on the equipment.

June Building officials have found that summer cooling is just as important as winter heating to their tenants and to themselves and employees.

**T**HIRTY-ONE individual standards covering a wide range of air conditioning and refrigeration products are included in the first set of ARI Standards recently completed by the Air-Conditioning and Refrigeration Institute.

Of particular interest is tentative Standard 6-10, Application Engineering Standard for Year-Round Residential Air Conditioning, which includes the Institute's recommendations for calculating residential cooling loads.

Other standards cover room air conditioners, self-contained air conditioners, compressors and condensing units, heat transfer products, and central-station air conditioning and refrigeration equipment.

Copies are available from the Institute's headquarters at 1366 Connecticut Ave., N.W., Washington 6, D. C.

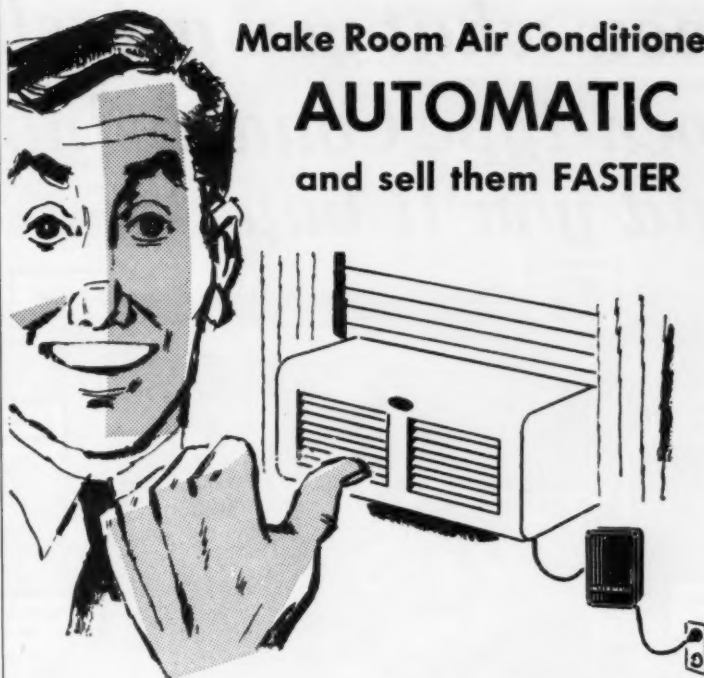
## 1954 CATALOG OFFERED BY M. BLAZER & SON

M. Blazer & Son, Passaic, N. J., wholesalers and manufacturers of heating, ventilating, refrigeration and air conditioning equipment has released the 1954 edition of its estimating catalog.

The 36-page pricing guide covers over 80% of the items normally used by contractors and engineers. Introduced in this issue is the company's own line of cooling towers and evaporative condensers in sizes to 150 tons.

## Make Room Air Conditioners

# AUTOMATIC and sell them FASTER



## The extra sale of the INTER-MATIC time switch means \$10.00 more profit

Here's a plus feature to offer your prospects and make easier sales for you. An Inter-Matic time switch will automatically turn the office air-conditioner on early, so that it will be cool when the office help . . . and customers . . . arrive. At day's end the unit is turned off automatically, eliminating wasted electricity through forgetfulness. The built-in "Skipper" device allows skipping weekend and holiday operation.



- ★ For 2-wire or 3-wire air conditioners, 125 or 250 volts.
- ★ No installation—just plug it in.
- ★ Air-conditioner easier to sell.
- ★ Two sales instead of One—Extra Profit.
- ★ Skips operation automatically on days off.

## GET THE FACTS, MAN

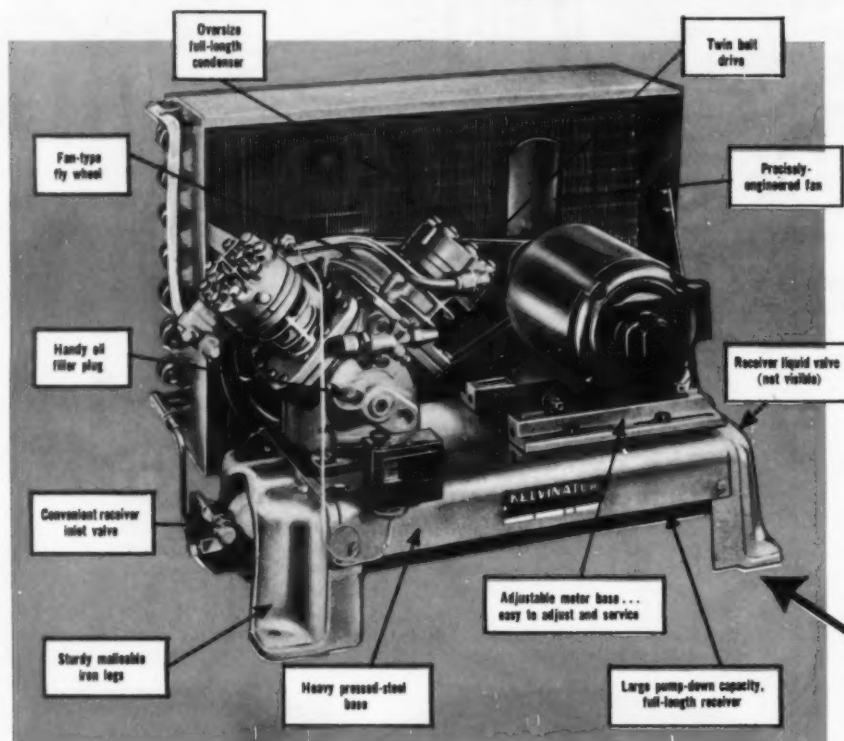
We'll show you how you can  
increase sales and profits.

**Mail this Coupon Today**

International Register Co.  
2624 W. Washington Blvd., Chicago 12, Illinois  
Please send me Bulletin 64M on the Inter-Matic  
Time Switch way to more profits.

Name \_\_\_\_\_  
Firm \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

# Know what you get when you buy open-type Condensing Units... and you'll buy **Kelvinator**



... the complete, new open-type line of air-cooled, water-cooled, truck and combination air-water-cooled units, from 1/4 H. P. (air-cooled) through 5 H. P. (water-cooled)

... a unit for every refrigeration requirement

ILLUSTRATION: MODEL QA-100 1 H. P.

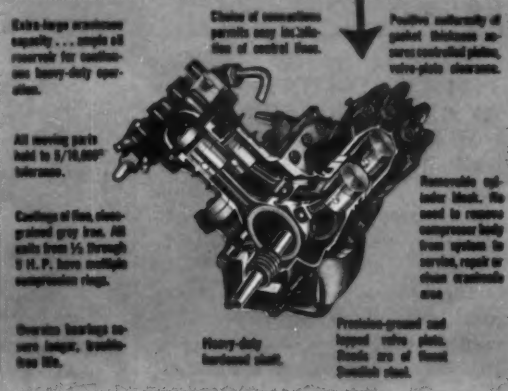
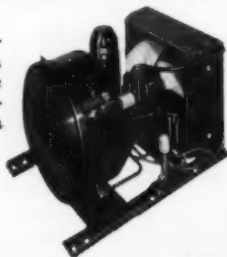
## HERE'S THE INSIDE STORY

● Is there a difference in condensing units? Decidedly, yes. And Kelvinator invites your careful comparison for performance, durability, service, and *price*. Compare — and you'll see why this precision-built line of new open-type condensing units stands head and shoulders above the field. Here are just a few of the outstanding features:

- **Large Receivers** . . . full-unit-length receivers, more-than-ample pump-down capacity.
- **Extra-large Air-cooled Condenser** . . . full-unit-length condensers — efficient, positive, rapid heat transfer.
- **Extra capacity water-cooled Condensers** . . . Primary and secondary condensing surfaces formed from one copper water tube, maximum heat transfer.
- **Low investment in service-parts inventory** . . . \$25.00 investment in seals, valve plates, gaskets, etc. covers *all* models! Less space required . . . easier servicing!

Kelvinator's complete line of hermetically-sealed condensing units (1/4 through 1/2 H.P.) cover a wide range of self-contained and remote applications. Specification and capacity data available on request.

Get more helpful facts from your Kelvinator distributor, or from Kelvinator, Division of American Motors Corp., Detroit 32, Michigan.



# Kelvinator

Manufacturers of Precision  
Refrigeration Equipment for 40 years

Circle No. 91 on Reader Service Card

JUNE, 1954 • COMMERCIAL REFRIGERATION

## USEFUL

### BULLETINS • BOOKLETS • CATALOGS

**9 DESIGN EXTRAS** of "Hold-Over" plates for truck refrigeration are stressed in catalog 54 available from Tranter Mfg. Inc., Kold-Hold Div. A simplified method for selecting truck plate requirements, tables of plate capacities, refrigeration specifications and heat leakage of common insulation materials are included. Illustrations of typical plate hook-ups and arrangements are also included.

Circle No. 131 on Reader Service Card

**SOLENOID VALVE** applications in all industrial fields are diagrammed in a 6-page bulletin covering model 73 solenoid valve made by A-P Controls Corp. Also included in this bulletin are cut-away drawings showing flare, sweat and N.P.T. connections as well as needle and strainer details. Dimensional drawings, complete specifications, and capacities are also included.

Circle No. 132 on Reader Service Card

**UNIT COOLERS** with filter sections for commercial refrigerators and containing twin fans and motors are presented in bulletin 104-53 available from Tenney Engineering, Inc. The bulletin contains photographs of the unit showing filter and fan arrangement, dimensional drawings, application data and construction features.

Circle No. 133 on Reader Service Card

**ELECTRIC BEVERAGE COOLERS** manufactured by Beveco Co., Inc. are presented in three catalog sheets available from the firm. The sheets describe and illustrate the "B" line coolers for either wet or dry operation, "C" coolers for dry operation only, and "DBR" coolers also for dry operation. Capacities, dimensions, interior views showing air movement, and complete specifications are included.

Circle No. 134 on Reader Service Card

**SIMPLIFYING THE JOB** of ordering refrigerant controls can be made possible through the use of information contained in Alco Valve Co.'s new condensed catalog No. 20. All controls in Alco's line are described, including new models and sizes. Refrigeration data and tables necessary for proper selection and ordering of controls are included. Also inclosed is Alco's description code for "Thermo" valves.

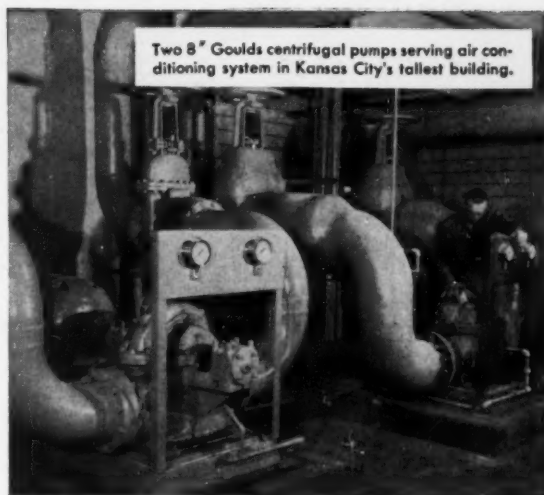
Circle No. 135 on Reader Service Card

**HOW TO ASSEMBLE** an all-steel walk-in cooler is shown in five easy steps in the cut-away type manual presented by Bally Case & Cooler Co. As each page is turned, it adds a new section to the preceding assembly. Besides detailing assembly instructions, the manual also shows how to expand the standard walk-in cooler beyond its original size, and how to adapt it to a change in store layout.

Circle No. 136 on Reader Service Card

(More Useful Literature on page 116)

and AIR CONDITIONING • JUNE, 1954



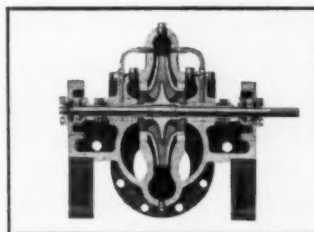
## These pumps help 800 Kansas Citians enjoy summer work

The 33-story Kansas City Power & Light Co. Building—tallest in this Midwest metropolis—has a new air conditioning system. That means cool comfort for more than 800 office workers.

The job of circulating the water used in the system requires rugged, dependable pumps that will deliver full capacities and pressures year after year, with low power requirements and low maintenance cost.

Four Goulds centrifugal pumps do the job. They're set up in two pairs—for flexible and economical operation under varying demands. The larger pair, for carrying peak loads, consists of an 8" Fig. 3075 which pumps condenser water, and an 8" Fig. 3405 which circulates cooled water. Each pump handles 2550 GPM.

The smaller pair, both 3" Fig. 3405 pumps handling 450 GPM, takes over the water-circulating job on week-ends and other times when the cooling requirements are low.



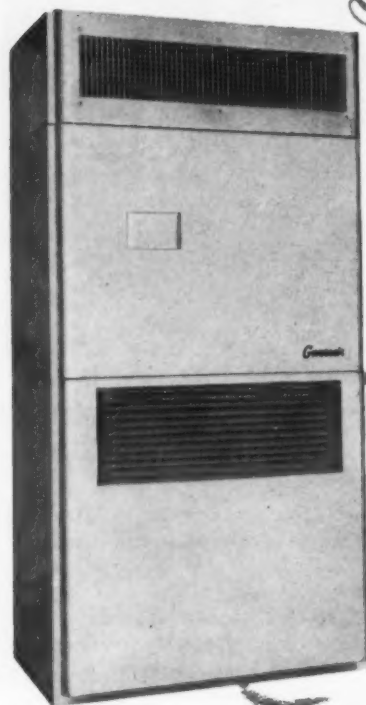
Cross section of Goulds Fig. 3405 pump, showing double-suction construction. Casing is horizontally split, and pump may be dismantled and repaired without disturbing piping. Bulletin 721.6 describes this pump in detail. Write for a copy.

There are Goulds pumps for every air conditioning application, with capacities to 15,000 GPM; heads to 500 ft. Goulds engineers will be glad to consult with you on any pumping problem. Write, wire or phone Goulds Pumps, Inc., Seneca Falls, N. Y.

**Goulds** **PUMPS INC.**  
Seneca Falls  
New York

Circle No. 92 on Reader Service Card

## An "Upright" Air Conditioner!



Governair  
Type SC  
Conditioner

Yes, this is an *upright* Governair self-contained conditioner—but that's not the reason for the halo.

The halo is there because this air conditioner behaves itself! Built to perform true air conditioning quietly and efficiently . . . it does just that! Flexibility, compact design, easy installation, dependability and economy are among its many virtues.

Available in capacities from 3 to 15 tons, the Governair Type SC Conditioner is the answer to your air conditioning needs in commerce, institutions, factories and homes. Choose *Governair* . . . originators\* of completely packaged air conditioners!



AIR CONDITIONERS



COMPLETELY PACKAGED  
AIR CONDITIONERS



BLAST COILS FOR  
HEATING & COOLING



EVAPORATIVE  
CONDENSERS

# GOVERNNAIR

\*Type SCU Conditioners Patent No. 2,597,926  
GOVERNNAIR CORPORATION • 513 N. Blackwelder • Oklahoma City, Okla.

Circle No. 93 on Reader Service Card

## USEFUL LITERATURE . . .

Continued from page 115

**A COMPLETE DESIGN GUIDE** for the application and selection of "Flexon" bellows is offered by Flexonics Corp. This guide covers the manufacture, design, applications and specifications for the bellows which are available in stainless steel, brass, monel, and other metals. Dimensional drawings are included along with vapor pressure and temperature curves for bellows assemblies.

Circle No. 137 on Reader Service Card

**MAINTENANCE** of calcium chloride brine is covered in Brief RB-1, available from the Calcium Chloride Institute. This release also contains suggestions for accurately testing brine strength and tips for strengthening the brine. Also included is data on tests for ammonia leakage, alkalinity or acidity of brine, corrosion inhibitors, and methods for correcting acidity or alkalinity.

Circle No. 138 on Reader Service Card

**A MAGNETICALLY DRIVEN** centrifugal pump which is driven by a rotating magnetic field instead of the usual drive shaft is completely covered in a 4-page bulletin presented by Fostoria Pressed Steel Corp. Characteristics, specifications and performance of the "Dynapump" are given, along with a cross-section drawing which shows the various components.

Circle No. 139 on Reader Service Card

**PROTECTIVE PLASTIC PLUGS** and caps for sealing openings and tube ends during shipping, maintenance or storage are covered in bulletin P-5312 presented by S. S. White Plastics Div., Dental Mfg. Co. The bulletin described how these rubber-like plugs and caps are applied, lists sizes available, and gives complete specifications.

Circle No. 140 on Reader Service Card

**GREATER ACCESSIBILITY** is one of the features described and illustrated in the 26-page bulletin Cutler-Hammer Inc. is presenting on its new motor control. Also covered in this bulletin are illustrations showing the simplified wiring, 5-unit construction, vertical dust-free contacts, rolling bearing armature and moisture-proof coil. Overload protection is also pictured. Nine pages of diagrams and specifications are also contained.

Circle No. 141 on Reader Service Card

**THE COMPLETE LINE** of freezers, coolers, and liquid refrigeration units manufactured by Nor-Lake, Inc. is presented in a new catalog available from the manufacturer. Each Nor-Lake product is pictured, and complete specifications on every model are listed, along with certain operating diagrams and cross-sectional views.

Circle No. 142 on Reader Service Card

**TEST PLUGS** and filling connectors for sealing leaks or orifices for testing purposes are covered in catalog 354, presented by Mechanical Products Corp. Included in the catalog are step-by-step installation photographs and cross-section drawings showing the self-sealing feature.

Circle No. 143 on Reader Service Card

(See page 100 for Air Conditioning Literature)



CATALOG R-616

**NIBCO**  
**WROT**  
**FITTINGS**  
FOR  
REFRIGERATION  
AND  
AIR CONDITIONING

Man,  
Get This  
New Catalog.  
It's Real  
Cool!

1904  
Golden  
Anniversary  
1954

NIBCO

NORTHERN INDIANA BRASS COMPANY  
ELKHART, INDIANA

**Full Line • Complete Range of Sizes**  
**ARRANGED TO SAVE YOUR TIME**

**Clip Coupon**  
AND PIN TO YOUR  
LETTERHEAD

JOIN UP WITH  
**NIBCO**

**NORTHERN INDIANA BRASS COMPANY**  
614 Plum Street, ELKHART, INDIANA

Send me your new easy-to-use Catalog R-616 devoted exclusively to NIBCO Wrot Fittings for Refrigeration and Air Conditioning.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_

Circle No. 15 on Reader Service Card

and AIR CONDITIONING • JUNE, 1954

## SURVEYS SHOW COOLING IS BOON TO MERCHANTS

In a recent survey made of the downtown air in a large midwestern city it was found that 40% of the dirt collected consisted of particles of rubber tires, cinders, lime and pollen; 30% was coal soot; 20% was sand and 10% consisted of live bacteria. This information was made public by J. F. Knoff, Chrysler Airtemp vice president, in a speech given before retail merchandisers attending the Fourth Store Modernization and Maintenance Show.

Knoff pointed out that air conditioning installations could correct the unfavorable shopping and working conditions during summer months that exist in the majority of the nation's retail stores. He also cited air conditioning for eliminating need for frequent repainting and cleaning, for providing better customer relations and for maintaining cleaner, more attractive merchandise.

Efficiency dropped off as the temperature rose in another study whose results Knoff pointed out

at the meeting. In a non-air conditioned group, 80% efficiency was obtained when the temperature reached 85-F. At 95-F, efficiency was cut in half. Contrasting to this study were the results gained from a third study conducted among users of air conditioning. This study revealed a claimed average efficiency increase of 20 to 30%. Translated into practical terms, this means not only more work - per - person - per - day turned out but also fewer errors.

## RICHMOND JOBBER ADDS G-E HEATING CONTROLS

Refrigeration Supply Co., Richmond, Va., is one of 23 wholesalers recently appointed by the Appliance Controls Dept. of General Electric Co. to handle G-E home heating controls, and to act as a servicing and exchange point for these products.

BUY FROM YOUR  
REFRIGERATION WHOLESALER

## 2 TRANE OFFICES MOVED

The Trane Co. announces that its Greenville, S.C., sales office is now located at 214 McDaniel Ave. R. G. Beck is sales engineer in charge. The Duluth, Minn. sales office is now located at 2830 W. Superior.

## MEASURE OPERATING COSTS IN NEW HOME

For the next 12 months, a private home in Fort Worth, Tex., will serve as a unique laboratory for scientifically measuring the cost of operating air conditioning equipment under actual day-to-day living conditions.

Sponsored by Coleman Co., Wichita, Kan., manufacturer of heating and air conditioning equipment, the house and its electronic recording devices were viewed by more than 10,000 persons during a public showing held in connection with National Home Week.

The Coleman house is equipped with a combination heating and cooling system which operates with a new type water-saving evaporative



**Small Capacity • Medium Duty  
SIDE SUCTION PUMPS**

**Close-Coupled • Flexible Coupling • Belt Drive**  
CAPS 5 to 75 G.P.M. HEADS 0 to 100 ft.

Ideal as part of Equipment Manufacturer's product, such as, air conditioning units, cooling towers, evaporator coolers, milk coolers, hot water circulators, etc.—and general service. Speeds 1750 to 3500 R.P.M.



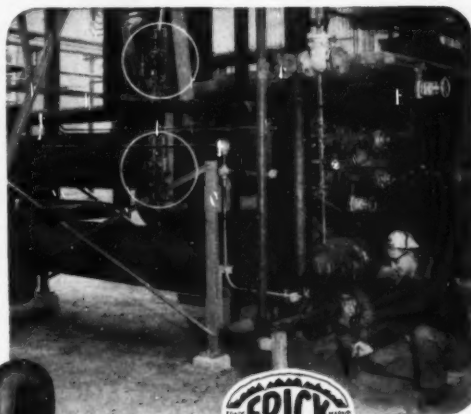
Type JMC Aurora  
Close-Coupled Pump

DISTRIBUTORS IN PRINCIPAL CITIES

**AURORA**  
PUMP COMPANY

DIVISION OF THE NEW YORK AIR BRAKE COMPANY  
21 LOUCKS ST., AURORA, ILL.

Circle No. 58 on Reader Service Card



## Safety Valves

Are the only ones to our knowledge, now approved by the National Board of Boiler and Pressure Vessel Inspectors for use with various refrigerants. Improved design allows Type AF Valves to handle two or three times as much gas as older valves. Seat and moving parts of stainless steel: ball joint distributes pressure evenly. Closes tightly after opening. Write for Bulletin 194 giving full data now.



DEPENDABLE REFRIGERATION SINCE 1882

**FRICK Co.**  
WAYNESBORO, PENNA. U.S.A.

Circle No. 59 on Reader Service Card

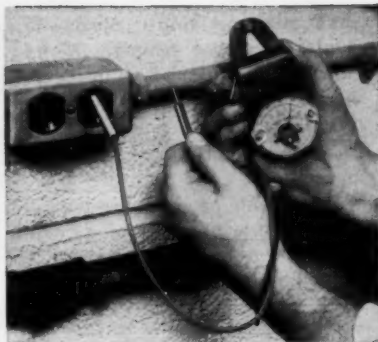
JUNE, 1954 • COMMERCIAL REFRIGERATION



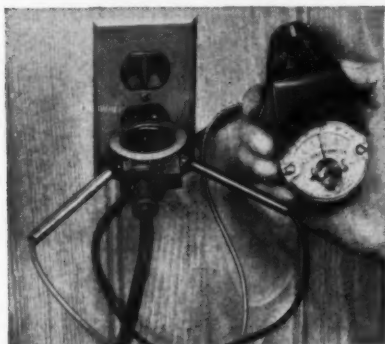
Check appliance current at receptacle



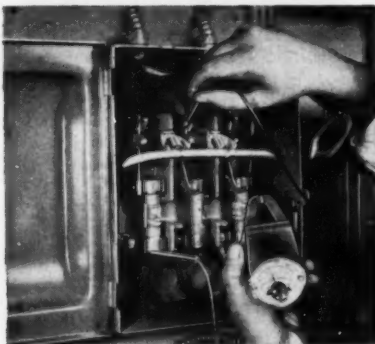
Trouble-shoot relays quickly



Instantly determine hot leg of receptacle



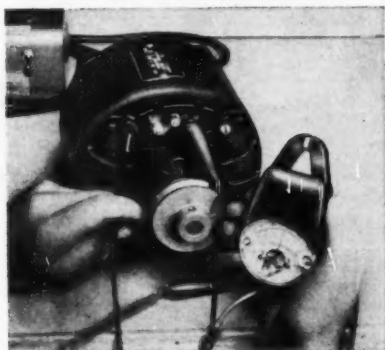
Check appliance voltage at receptacle



Instantly determine if fuses are good



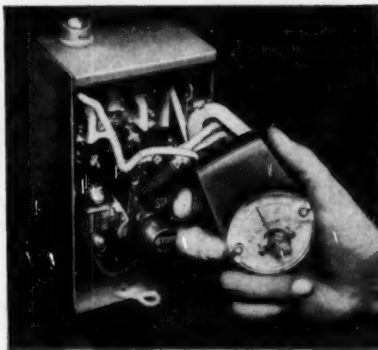
Know if the load is balanced



Know if windings are grounded



Check capacity of motor capacitors



Expand low-amp reading by doubling lead

# Eliminate Guesswork!

One pocket tester measures voltage and current, with instrument accuracy, without shutting down equipment!

And the cost is only \$19.85 (just a few dollars more than an ordinary voltage tester), so every man can carry one!

Pick the Amprobe Junior that fits the job. 7 models from 0-10 amps to 0-100 amps; choice of either 0-125/250 volts A-C or 0-150/600 volts A-C range. For your higher current applications, multi-range Amprobes available for 300, 600 or 1200 amperes.

See the full Amprobe line of snap-around volt-ammeters at your jobber's today.

Send for valuable Amprobe service bulletins showing many more ways to save time and money on the job with an Amprobe. Mail coupon now to: PYRAMID INSTRUMENT CORP., LYNBROOK, N. Y. (Export Div.: 458 Broadway, N. Y. 14), world's largest manufacturers of snap-around volt-ammeters.

## Amprobe Jr.\*

snap-around volt-amp tester **\$19.85**

\*®

Circle No. 88 on Reader Service Card

and AIR CONDITIONING • JUNE, 1954

Send for these free Amprobe service bulletins:

Pyramid Instrument Corp.,  
Dept. CR-64 Lynbrook, N. Y.

Please send me the Amprobe service bulletins checked below:

- ☐ UL wiring standards, room conditioners
- ☐ Trouble-shooting electric motors
- ☐ How to cut costs and land more jobs
- ☐ Portable test instruments

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_



condenser. Special instruments automatically record temperature and humidity conditions both inside and outside of the house. Gas, water and electricity for year-round air conditioning will be recorded on separate meters.

Tests being conducted in the Fort Worth house are part of a major campaign to replace "guesstimates" with facts about operating costs, Sheldon Coleman, president and general manager of the company, said.

"In the final analysis, the air conditioning industry will stand or fall on its ability to prove that operating costs are low enough to justify year-round central air conditioning in houses costing less than \$15,000," he added.

The Fort Worth house is a one-story, ranch style house with a high degree of open planning and maximum utilization of space for family living. The design of the house satisfies the demand for both year-round air conditioning and large window area combining maximum indoor comfort and outdoor outlook.

To reduce the cooling load and still retain living features desired by

## CHLORO-PHYLLED AIR



**CONDITIONED AIR** that even smells good is now obtainable with the "Air Fresh'ner" device which Remington Corp. is including as standard equipment on its 1/2-hp deluxe window air conditioners. Developed jointly by Remington and Airkem Inc., the chlorophyll container fits into the side of the unit and can be turned on or off as desired. Killing objectionable odors quickly, the average container lasts all season, replacements are easily available.

the home buying public, the home design specifies a well-ventilated attic and a low pitched roof surfaced with heat reflecting marble chips.

Without sacrificing light and visibility, windows are placed so that they are not exposed to the summer afternoon sun.

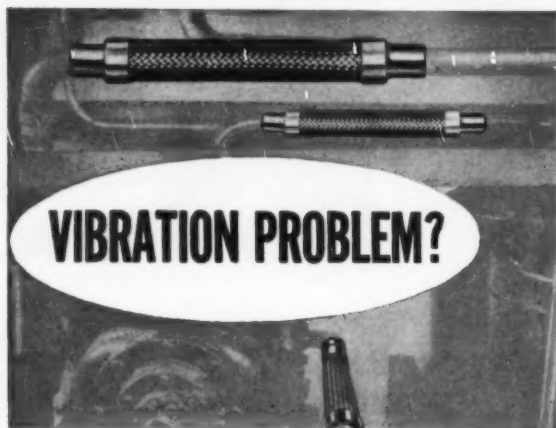
Special attention was paid to wall and ceiling insulation and to the vapor seal beneath the floating slab floor and around the perimeter of the house.

Two small exhaust fans located in the kitchen dispel heat from cooking and food storage appliances.

"Careful consideration of heat and moisture producing sources have resulted in a house which can be effectively cooled with a relatively small unit. This means lower first cost and a significant saving in operating expense for year-round air conditioning", Coleman said.

## HANDLE EXCLUSIVE LINES

Peerless Pacific Co. of Eugene and Portland, Ore., and Thermal Supply Co. of Seattle, Wash., are now handling Bush Mfg. Co. and Heat-X-Changer Co. products on an exclusive basis, having discontinued all overlapping competitive lines.



## VIBRATION PROBLEM?

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Write for Bulletin VA-3



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deterioration — prevents costly spoilage of perishable goods.

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**TYPICAL INSTALLATIONS**

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Chicago, Ill.

Hackney Brothers Body Co.  
Wilson, N. C.

Highway Trailer Co.  
Edgerton, Wis.

John Hauenstein Co.  
New Ulm, Minn.

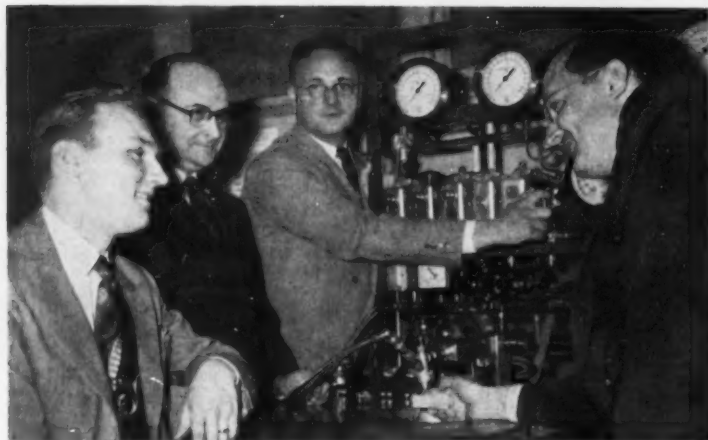
Myers Dairy  
Monroe, N. C.

Write for our "Design Data Bulletin RBH-53", Dept. CR-4, Great American Industries, Inc., Rubatex Division, Bedford, Virginia.



**RUBATEX** *CLOSED CELLULAR RUBBER*

## A-P TEACHERS "CONTROL" NIGHT SCHOOL CLASSES



**MIXING THEORY WITH ACTUAL PRACTICE**, these four A-P Controls employees teach various night school courses in the Milwaukee School of Engineering after their regular day's work at A-P is over. The four engineer-teachers are, left to right: Vincent Reynolds, refrigeration control sales; Clarence Aughey, chief mechanical engineer for A-P; Henry Michalski, gas control sales; and Harold Lonn of the engineering department.

## REMINGTON APPOINTS 6 NEW DISTRIBUTORS

Appointment of six new distributors for Remington window and console room air conditioners has been announced by M. L. Judd, general sales manager.

The new distributors are McCutcheon Distributing Co., Inc., Pittsburgh; Associated Southern Industries, Memphis, Tenn.; Small & Schelosky Co., Evansville, Ind.; Wall Distributing Co., Fort Wayne, Ind.; Charles A. Lenz & Associates, St. Petersburg, Fla.; and Thompson & Holmes Ltd., San Francisco.

## COOLING BOOSTS MORALE IN ZIPPER FACTORY

Employee efficiency and morale under a 20-hour-a-day production schedule in the new Westbury, Long Island, plant of Anchor Slide Fastener Corp. were substantially increased during the summer months by an air conditioning system utilizing factory-assembled central plant air conditioning equipment and upright store-type air conditioners, made by United States Air Conditioning Corp.

Anchor Slide Fastener moved to its new quarters in the spring of 1953 from a downtown New York City plant, which had no cooling. The company produces machinery which is used for the manufacture of zippers and also does extensive

subcontracting work for Republic Aviation Corp.

Anchor's experience in its former factory indicated that temperatures would run well over 100 F on hot summer days when its machinery was in operation. Night shift employees, particularly, exhibited sluggishness and general discomfort during these periods.

The new plant's air conditioning system, as designed and installed by the Mid-Island Utilities Co., of Westbury, utilizes a 40-ton Usairco self-contained refrigerated "Kooler-aire" unit. This unit serves the main production section.

Conditioned air is distributed by a conventional duct system, and return air is drawn directly from the conditioned area. Fresh air and evaporative condenser supply and exhaust are taken through the adjacent exterior wall.

A 7½-ton upright unit supplies a duct system serving the plant offices. Two additional 7½-ton upright units serve two smaller production areas in the rear of the building.

## MARLOW NAMES NEW VIRGINIA OUTLET

Marlow Coil Co., has appointed Laurence Trant & Co. of Richmond and Norfolk as sales representatives in Virginia.

## CONDITIONED ROOMS AID RESEARCH STUDIES

To determine exactly what influence climate plays on the health and development of human beings, the University of Illinois' College of Medicine has conducted research studies for many years on environment factors and their effects on both healthy and sick people.

New research facilities, recently completed in the University's Research and Educational Hospital, include eight special air conditioned rooms.

These facilities were described at a recent meeting of the Illinois Chapter of American Society of Heating & Ventilating Engineers.

Prof. M. K. Fahnestock, research professor of mechanical engineering and chairman of the ASHVE technical advisory committee on physiological research, gave detailed information on the rooms that have been designed for precise control



of temperature, humidity, air motion and air cleanliness.

Generally, temperatures may be varied from 45 to 120 F and relative humidities from 20 to 80% at any dry bulb temperature may be obtained.

Permissible temperature deviation is plus or minus ½°, and the deviation allowed for relative humidity is plus or minus 2%.

Fahnestock said that separate air conditioning equipment is provided for each room in order to give flexibility and to make each room con-

dition independent of the others.

A number of the research findings that resulted from tests conducted in the rooms were given by Dr. Ford K. Hick, professor of medicine in the University's Dept. of Medicine, and a practicing physician.

Hick pointed out that metabolic heat is moved from its source in deep tissues to the surface of the skin to maintain a constant deep body temperature. The heat that is brought to the surface of the skin is dissipated to the environment by radiation, convection, conduction and water.

In comfortable environments the heat production of nude resting men just equals the heat loss, of which

#### DUFFERS, TAKE NOTE



**FREEZE 'EM AND WIND 'EM** is the new production method being used successfully by MacGregor Golf Co., Cincinnati, in making its MT golf balls. Problem had been that to produce a lively ball it was necessary to wind the many yards of thin rubber tightly around the soft core — yet winding under maximum tension tended to distort the core. At MacGregor, cores are now refrigerated for 8 hours at -150 F in a Bowser-built cabinet, then wound while frozen solid. Result: no core distortion, fewer rejects, more uniform balls.

60% is lost by radiation, 25% by evaporation and 15% by conduction and convection combined.

Dr. Hick also mentioned that resting women maintain a lower heat production than similarly clothed, resting men at environmental temperatures ranging from 72 to 95 F.

The mean skin temperature in women is lower than that of men in cool environments and greater in warm environments. Because of greater heat losses in warm environments, women are better able than men to adjust to warm environments.

Among other findings of research studies, Hick pointed out that patients with compensated cardiac disease are perfectly able to adjust from a comfortable space to a hot, humid environment.

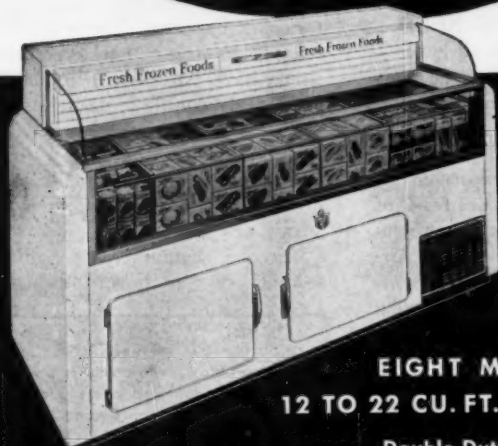
and **AIR CONDITIONING** •

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# A Great New Line of Frozen Food MERCHANDISING CABINETS

By

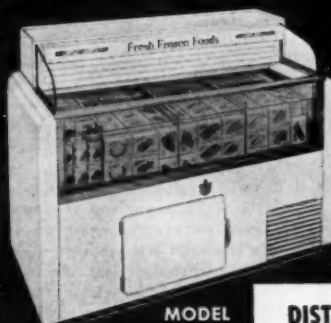
*Schaefer*



**MODEL  
FGF-224D**

With low type superstructure. 22 cubic feet capacity. Displays 660 standard frozen food packages. Holds 10 cases in storage compartment. Also available with shelf type superstructure.

#### EIGHT MODELS 12 TO 22 CU. FT. CAPACITY



**MODEL  
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With low type superstructure. 16 Cu. Ft. capacity. Displays 460 standard frozen food packages. Storage compartment holds 6 cases. Also available with plastic or shelf type superstructure.

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- Fashioned Exclusively for Frozen Food Merchandising
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● Our new policy of forming the Frozen Food Cabinet Division of Schaefer, Inc. enables us to expand our distributor and representative organization. If you are interested in a Schaefer Frozen Food Cabinet franchise, send the coupon or write today.

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## KANSAS CITY JOBBER OPENS NEW WICHITA STORE



**NEW HEADQUARTERS** for the Wichita, Kansas, branch of Refrigeration Equipment Co., refrigeration and air conditioning supplies wholesaler of Kansas City, Mo., is shown here. The new location at 1641 East First St. features increased warehouse space and ample parking facilities. An "open house" was held to celebrate the opening of the new headquarters, reports E. L. Tramposh, president of Refrigeration Equipment Co.

### TRAINED MANPOWER CITED AS INDUSTRY'S BIG NEED

Trained manpower at all levels—the professional engineer, the manufacturer, the installer, and the serviceman—is the major problem of the air conditioning industry today. That was the belief expressed by Matt Lawler, vice president of Worthington Corp., during an educational panel session of the Air-conditioning and Refrigeration Institute meeting at Long Beach, Calif.

Lawler made it clear that in his opinion this problem is not limited to any one segment of the industry, nor will it be solved by any one organization or group of organizations.

"The problem is one to which all of us individually in our own organizations, and collectively through our trade associations and professional societies, must address our best efforts," said Lawler. "Such educational conferences as this and others being held across the country this year are one phase of the educational process. So also are the schools conducted by the manufacturers for their own employees and those of their distributors, in sales, application engineering, installation and service."

Referring to talk about a possible recession, Mr. Lawler stated, "We have in air conditioning what seems to me to be a very strong defense against depression. I would expect the volume of air conditioning to keep right on increasing in the event of a general business recession. That's what it did during the depression of the 1930's."

"Obviously it will go up faster if the general economy continues strong and healthy, but it seems to

me almost certain to go up, no matter what happens. There are even reasons to argue that a recession would have a positive effect on the sale of air conditioning systems.

"First, a sharpened competition for retail sales would force more and more stores to air condition in order to hold present customers and attract new ones.

"Second, manufacturers will be seeking ways to lower production

**A** CHAPTER on Residential Summer Air Conditioning is among the special features offered in the 32nd edition of the Heating, Ventilating, Air Conditioning Guide, now available from the American Society of Heating & Ventilating Engineers.

Included is new data on methods of obtaining local relief in hot humid environments, new information on recent developments in air and gas cleaning, new tables on steam requirements of process equipment, and more detailed data on characteristics of pipe and tube.

The technical section of the guide contains 1128 pages and the manufacturers catalog section of 486 pages illustrates the products of 319 well-known manufacturers. An edge index enables readers to open the guide immediately at any of the 52 chapters or 7 sections. Price of single copies is \$10.00.

costs and improve the quality of their products. Air conditioning of factories has dramatically proved its value in achieving both objectives; hence it would tend to be used on a wider scale by manufacturers who feel the pinch of competition.

"Third, competition in the housing field would be such that new homes would have to be offered fully air conditioned while rental properties not so equipped would

have to be modernized with air conditioning to remain rented to capacity.

"I think our industry is as nearly recession—proof as any you can find," said Lawler.

Giving the public the best in equipment, engineering, installation, and service is the industry's greatest responsibility, Lawler pointed out.

"We can do this through continual research and development of improved products, rigid manufacturing standards, and high type sales and service organizations," he concluded. "In this way, we in air conditioning will carry this industry forward to a realization of its great potentials."

### REFRIGERATION HELPS TO BUILD A DAM

Refrigeration played an important part in the construction of the concrete part of the massive Wolf Creek Dam, recently completed on the Cumberland River in southeastern Kentucky as part of the federal government's long-range flood control and electric power development program.

In order to prevent fracture during the setting period, the mix and pour were kept below a maximum of 67 F by the addition of water chilled to near-freezing temperatures.

A Frick zig-zag water cooler with float valve control supplied 60 gallons per minute to the mixers, after lowering its temperature from 80 F to 34 F. To handle this cooling load, two 8 x 8 Frick machines were installed.

The dam, under construction for several years, is more than a mile in length, and forms a reservoir draining an area of almost 6000 sq. miles. Generating capacity is about 275,000 kilowatts, enough to supply the needs of a city of 375,000 persons.

### SERVEL APPOINTS BOYD

The Boyd Engineering Co., Inc., has been appointed distributor for Servel air conditioning equipment in New Mexico and the trans-Pecos section of west Texas.



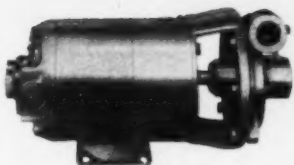
# LOOK TO THE LEADER—LOOK TO PEERLESS

## For the Successful 5-Point Plan for Assur- ing Profits from Pumps

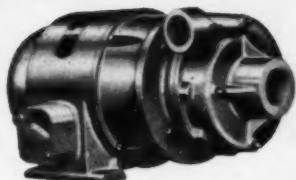
### FLUIDYNE LINE CHARACTERISTICS

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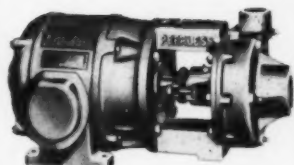
¼-1½ hp FACEMOUNT



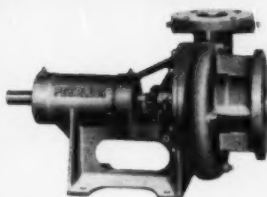
2, 3, 5 hp FACEMOUNT



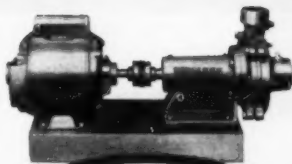
5-50 hp DIRECT CONNECTED



FLEXIBLE-COUPLED Integral hp



FLEXIBLE-COUPLED Fractional hp



**They're ECONOMICAL.** Designed with economy in first cost, installation, maintenance and operation in mind, all without compromise in quality.

**They're DURABLE.** Every consideration has been given in design and construction to assure long service life even under abnormal service.

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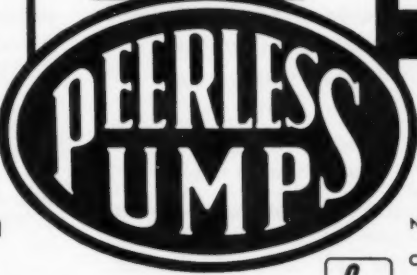
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and AIR CONDITIONING • JUNE, 1954



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Operating efficiency of refrigerating equipment depends on a number of things—good design, installation skill and quality material. When you come right down to it, it's what goes on *inside* the refrigeration system that counts the most, and that may well be a reflection of the quality and purity of the refrigerant and the oil used in the equipment.

Here are two combinations

that are keys to high efficiency and trouble-free operation:

**Virginia Refrigerants  
plus Suniso Oil**

**"Freon" Refrigerants  
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products. Or write Refrigeration Division, VIRGINIA SMELTING Co., Dept. 64, West Norfolk, Va.

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# THE COMMERCIAL REFRIGERATION and AIR CONDITIONING

## APPLICATIONS MANUAL

by Hugo C. Smith

Readers are invited to submit their problems to this department. Each letter of inquiry will be answered personally by the author. All problems should be clearly and completely stated and addressed to: COMMERCIAL REFRIGERATION AND AIR CONDITIONING, Manual Dept., 1240 Ontario St., Cleveland 13, Ohio.

### Proper Preparation of a Job Proposal Can Be A Big Step Toward Closing the Sale

**A**LL too often, commercial refrigeration jobs which have been carefully engineered and closely estimated are lost as a result of poorly prepared proposals.

After the load calculations for any particular installation have been completed and the detailed estimate made out, as described in the Applications Manual in previous issues, many companies then proceed to submit to the prospect a proposal which actually contains little else but price.

#### Poor Proposal May Lose the Sale

Such sketchy proposals, relying as they do upon conversation alone to sell the job, often place in jeopardy all of the time and effort and expense which has been poured into the preliminary work of engineering and estimating the installation.

A good proposal protects both the seller and the buyer, for it sets forth in specific terms the exact equipment to be provided and the precise amount of work to be done by the installing contractor. It describes in detail the amount of work to be done by others. It covers the limitations as well as the responsibilities of the seller, and it assures the buyer of actually getting what he pays for.

#### Good Proposal Includes All Details

A good proposal outlines not only the conditions to be maintained in the cooled area but also the design conditions upon which the equipment was selected, and any other pertinent engineering data.

Cost, of course, is an important factor to be set forth in any good proposal,

and all equipment or service warranties should be clearly defined.

Proper space should be provided at the conclusion of the proposal for signatures of both the buyer and the seller to indicate their mutual acceptance of the proposal as presented.

#### First Impression Is Important

A detailed proposal fully covering all of these factors can go a long way toward eliminating the possibility of any misunderstandings between buyer and seller when the job is completed. Such misunderstandings can only serve to rupture the contractor's customer relations, sometimes beyond repair.

It is important for every contractor to realize that the finished proposal is the first example of his work that the potential buyer will actually see. Instinctively the prospect will associate the quality of this proposal with the quality of workmanship which he expects to receive on the installation he is purchasing.

#### "Window Dressing" Can Help

For this reason, the neatly typewritten proposal should be enclosed in some sort of a protective folder or cover, together with any available manufacturer's literature including specifications of all major equipment. Any institutional material which the contractor may have, exploiting his own company's facilities, services, and reputation, also should be included to

*For illustration of a typical proposal, see the next page.*

## NOW YOU CAN COMPETE!

... here's your EXTRA  
PROFIT line of

### ELECTRIK-ICE

**WATER  
COOLERS**

YOUR  
LOW PRICE

**\$132.00**

**NOW - WITH  
TOE-TRONIC  
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MODEL E-554  
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UNIFLOW offers a complete line of low cost Water Coolers (up to 14 gallons capacity) for dealers'

**EXTRA PROFITS and Customer's satisfaction. Write for  
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ERIE, PENNA.

**"A Leader In The Water Cooler  
Field For Over 20 Years"**

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# Proper Proposal Aids the Sale

## PROPOSAL

4 May 1954

Acme Produce Company  
Central Food Terminal  
Cleveland, Ohio

Subject: Cooling Holding and Storage Rooms

Gentlemen:

We are pleased to present to you our proposal for cooling your Holding and Storage Rooms.

### SCOPE OF WORK

We will provide equipment to cool your 60 x 40 x 14 holding room to a temperature of 6° - +5°F and your 10 x 30 x 10 storage room to a temperature of 35°F.

### ENGINEERING DATA

Our calculations for choice of equipment were based on the following conditions:

75° Inlet water  
95° outside temperature

Holding room loading: 10,000 # fruits frozen in 36 hours from 90° to -5°F.

### EQUIPMENT

To meet the requirements as described we propose to furnish the following equipment:

Four (4) 5 H.P. Carrier hermetic compressors  
One (1) 2 H.P. Carrier compressor  
Four (4) TV350 Kramer automatic defrosting coils  
Two (2) 15M7 Carrier cold diffusers.

-2-

### EQUIPMENT (continued)

Each compressor shall be connected to one cooling unit in the holding room in such a manner that each is an independent balanced system.

The compressors shall be controlled as four independent balanced systems in the following manner:  
Each compressor shall be capable of running independent of the other; also, each compressor shall automatically start in the case of heavy loading or high ambient conditions.

### INSTALLATION

We will furnish all labor and material to deliver and install the above equipment in a neat and workmanlike manner.

Our installation includes delivery and rigging, cutting and patching, freon and start up and temperature regulation of the system; also plumbing and wiring from point of connection in compressor room.

### COST

The cost of the equipment installed as described above will be Ten Thousand Four Hundred Twenty Four Dollars (\$10,424.00).

In case additional balanced 5 H.P. systems are desired the present cost of each is \$2278.00.

### WARRANTY

This quotation includes one year guaranty from date of completion of installation against any mechanical defects in material or workmanship furnished by us. Service will be rendered for one year without additional cost to you. In addition, the compressor and motor assembly will bear manufacturer's five year warranty.

REFRIGERATION SALES CORP.

H. C. Smith  
Sales Engineer

ACCEPTED:

REFRIGERATION SALES CORP.

ACCEPTED:

ACME PRODUCE CO.

BY \_\_\_\_\_

DATE \_\_\_\_\_

BY \_\_\_\_\_

DATE \_\_\_\_\_

**A JOB WELL PRESENTED** is a job half sold, so the saying goes. Here is an example of how to prepare a job proposal so it can be most effectively used as a sales tool.

round out the impression of quality, reliability, and responsibility which the proposal is designed to create.

Does this sound like a lot more work than just scribbling a couple of figures on the back of an envelope and handing it to the prospect? It is! But in the final analysis it will pay off handsomely, for there's an old—and true—saying among salesmen that a job well presented is a job half sold.

## PREPARES BOOKLET ON COOLERS FOR CONSUMERS

A new consumer's booklet on how to buy a room air conditioner has been released by Philco Corp.

The booklet, "There is a Big Difference in Room Air Conditioners" has been prepared by the room air conditioning department of the company's appliance division.

Its theme is based on the importance of selecting a room air conditioner on the basis of quality, features, advanced design and proven dependability.

It divides room air conditioners into three groups:

1. All year 'round models with reverse-cycle systems that heat as well as cool the same size room plus automatic temperature control that prevents overcooling.

2. Automatic room air conditioners that do not have the heating feature but do have automatic temperature control.

3. Advanced design room air conditioners that cool a room but do not have either reverse-cycle heating or automatic temperature control.

## PRE-FORMED DUCTS . . .

*Continued from page 93*

per outlet. Shipping weight would be about 16 pounds per outlet, complete for all pipe and fittings, including plenum and return air register. Short runs will run slightly less and long ones more.

It is sometimes desirable to install diffusers in the conventional high side wall and, at the same time, deliver air through small pipe at greater than usual temperature difference.

For such applications, an injection duct can be constructed, which consists of a wall stack with register



at both the top and at the bottom.

The small pipe is run up through the stack, a little distance above the lower grille, as indicated in Fig. 4. The injection effect will be increased if the small pipe is flattened somewhat at the end to form a jet.

As the conditioned air is discharged into the stack, it picks up additional air in the stack and discharges the mixture through the upper grille. The stack air is replaced through the lower grille. It is important that furniture does not obstruct the lower grille.

The lower grille does not take the place of the regular return air opening, since the air which it receives is immediately returned through the upper grille. Return air should be handled in the same as with any system.

A recent trend to above-ground construction, without basements, presents problems in return air circulation. One method which often proves economical is to seal off space between joists, or between a drop ceiling and the floor or roof above, and connect this space to the return plenum of the conditioner.

Return grilles can then be installed in any hollow wall connected to this space. Supply ducts can be run within the space but, where temperature difference is considerable, they should be insulated. Such an arrangement is illustrated in Fig. 5.

#### Reverse Flow Used

Some duct systems have been installed with reverse flow connections, permitting ceiling supply and baseboard return during the cooling season and the reverse during the heating period. This coincides with the natural convection flow of heated or chilled air. There are cases where this might be preferable to perimeter cooling. It would be necessary that the entire duct system, supply and return, be tight throughout.

We have been considering metal ducts but it should be remembered that there are also asbestos and composition duct and materials in sufficient variety to be considered for a complete system, including the conditioner enclosure. These non-metallic materials are particularly applicable where inherent in-

ulating and sound deadening qualities are important. They can be used with standard diffusers, and ways have been developed to simplify on-the-job construction of all necessary elbows, transitions and fittings. Engineering characteristics have also been carefully determined.

The use of flexible reinforced hose may be advisable, particularly when ducts must be fished through crawl spaces, attics, etc. These are made in circular and rectangular sections, with transitions for connecting to rigid types.

Friction loss charts are available for the various makes so that the entire system can be laid out intelligently. They should be ordered for the maximum plus or minus pressure to be handled, since they might otherwise burst or collapse.

All available types of construction and materials should be carefully considered in installing a duct system. When installed in a manner which practice has shown proper, good results can be expected of any of them. The ideal system is apt to be a combination of two or more types.

## New Kool-Rite Freezer Unit Cuts Installation Costs . . .

### Kool-Rite Development of Reverse Cycle

Automatic hot gas defrost, trouble-free performance and low cost are features of a new low temperature package refrigeration unit manufactured by Kool-Rite Co., Roberts, Wisconsin. This unit has high and low side (complete with evaporator and compressor) mounted on a single panel for ease of installation.

Recently presented to the public, many buyers and manufacturers of walk-in freezers are now specifying Kool-Rite units for all low temperature applications. Kool-Rite freezer units are designed for applications requiring temperatures from  $-20^{\circ}$  F. to  $32^{\circ}$  F. in any walk-in freezer made today. Reverse Cycle system provides comparatively frost free operation. The unit will operate efficiently in surrounding temperatures as low as  $20^{\circ}$  F. This Kool-Rite development



Kool-Rite Model FX

permits use of space formerly impracticable because of below normal room temperatures.

Completely automatic, Kool-Rite low temperature systems defrost 4 or 8 times per day to give peak performance at a savings. Average defrost cycle is about 8 minutes, but can be adjusted to meet unusual requirements. Completely self-contained in one simple unit, Kool-Rite systems are easy to service.

For complete information without obligation, write today to Kool-Rite.

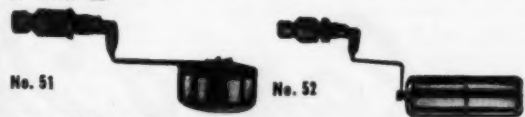
**ERICKSON INDUSTRIES, INC.**  
Roberts, Wisconsin

Circle No. 97 on Reader Service Card  
and AIR CONDITIONING • JUNE, 1954

## BIG BUYS

### IN SMALL PRECISION FLOAT CONTROL VALVES

For controlling water in humidifying units, pan fillers, air conditioning equipment, evaporative coolers, and air washers. No. 51 and 52 Valves accurately maintain water lines as low as 1" deep. Float adjustable. See your jobber or write us.



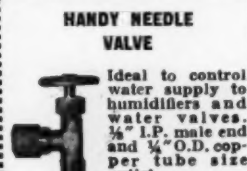
Only 5 1/2" long overall. Non-corrosive metals throughout. Easy to install by drilling one hole. Capacity 1/2 gal. per minute at 50 lbs. pressure.

8" long overall. Same features as No. 51 Valve, except larger capacity—1 gal. per minute at 50 lbs. pressure.



#### QUICK HOOK-UP SADDLE VALVE

Fits 1/2" and 3/4" pipe. To install, just drill 1/4" hole in pipe. Outlet provided for 1/4" O.D. copper tubing.



#### HANDY NEEDLE VALVE

Ideal to control water supply to humidifiers and water valves. 1/4" I.P. male end and 1/4" O.D. copper tube size outlet.

See your jobber or write.

**MAID-O'-MIST, Inc.**

3217 NORTH PULASKI ROAD, CHICAGO 41, ILLINOIS



Circle No. 98 on Reader Service Card



## Stop shopping all over town—get the right control the first time from Ranco

Today, Ranco controls are available for almost 5,000 replacement installations—domestic and commercial—for every type of refrigeration job you'll ever tackle. They are precision built to give dependable, trouble-free performance to customers and servicemen alike. That's why there are more than 50,000,000 Ranco controls in use throughout the world . . . more than any other make. To save time, eliminate call-backs and make every job profitable, replace it right the first time with Ranco.

### 3 R'S OF THE INDUSTRY

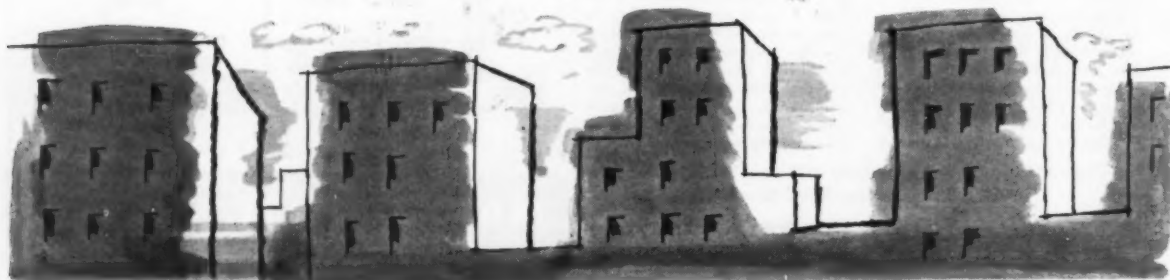
Ranco Replacement Reference No. 1544. Lists almost 5,000 replacement controls . . . most complete line in the industry. See this bigger, new manual at your Ranco wholesalers . . . or get a copy from him for your own use. (Available only at wholesaler's.)

# Ranco Inc.

COLUMBUS 1, OHIO



WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS



Circle No. 99 on Reader Service Card

## THE SERVICE MAN'S DEPARTMENT

# HERE'S HOW!

### Hermetics Need Dehydrating Whenever They Are Opened

Anytime a hermetically sealed compressor is opened to the atmosphere it must be evacuated and dehydrated to remove any traces of moisture. This is true even if the compressor is open only for a short time for service on valves, strainers, oil pump, or similar components, or if a complete dehydrated replacement compressor is installed where no motor burnout has occurred.

### Windings Become Exposed

In such cases, according to the service hints published in a recent issue of the *Worthington Climate Chart*, the compressor motor winding, which contains some cellulose compounds which are hungry for water, has been exposed to the air and will have absorbed moisture from it. The amount of moisture absorbed depends upon the temperature and relative humidity of the air at the time, and upon the length of time the compressor was open.

### Evacuate Compressor

Under such conditions the compressor should be evacuated as described in the Here's How department of the January issue of *COMMERCIAL REFRIGERATION & AIR CONDITIONING* for at least four times as long as the compressor was open.

Make certain that a vacuum of 0.1" of mercury absolute is reached and that with the pump stopped and the valve in the pump line closed, the vacuum stays at this value for at least half an hour. Then break the vacuum by letting refrigerant from the system raise the pressure in the compressor to atmospheric, and then evacuate it again as previously described.

**I DO IT THIS WAY**

Original Method    Improved Method

**H**ERE is a method which I have developed of simplifying the job of disconnecting the discharge union whenever it might become necessary to remove a compressor on either the Yorkaire 701 or 1501 packaged air conditioners.

Because of the location of this union in the original assembly, I have sometimes experienced considerable difficulty in disconnecting it. Also, at times this union is difficult to tighten so that it is leak-proof, since the lack of space prevents the use of the proper size pipe wrench.

To overcome these difficulties, I replace this union and all with a rearrangement which allows me to break the union from the front very easily in just a few seconds. Leaving the discharge port of the compressor I use a 2½" short nipple, a 1" union, a 1" street ell, and a piece of 1" pipe 11½" long.

I then silver-braze a compressor shut-off valve with ¼" M.P. into the street ell for gauge connection and high-pressure cut-out.

**Gilbert A. Friesenhahn**  
Macdonia, Tex.

\* \* \*

This serviceman earned \$5 by submitting the above item to our Here's How Editor. Why don't you send in your favorite service idea, and earn \$5 too?

## FOUNTAIN FREEZER SERVICE

### Introduction

Basically, fountain freezers and milk shake freezers do not differ from the industrial type of ice cream freezers used in dairies.

One of the principal differences is that they are smaller in size and that they are so equipped that personnel with very little experience can operate them. The other difference is the fact that in the case of soft ice cream freezers the product must be frozen to much colder temperatures than in the industrial types of machines.

### Initial High Load

In the latter case, the machine starts under light load as the liquid product is simply brought down to 24 or 25 F, and then whipped or aerated until it contains about half mix and half air. It is then drawn from the machine for hard freezing into hard ice cream.

In the case of soft ice cream, the product has to be brought down to 18 or 20 F, with only a small amount of aeration, to be held in the freezing cylinder with that temperature maintained until the product is served to the consumer. This sometimes is a considerable period of time.

### Completes 1000 Cycles

The machine thus must start up under full load, and possibly complete up to a thousand or more cycles in a normal day's operation. This demands peak efficiency from the mechanical and refrigeration system, and creates some real problems peculiar to this type of machine. These unusual requirements,



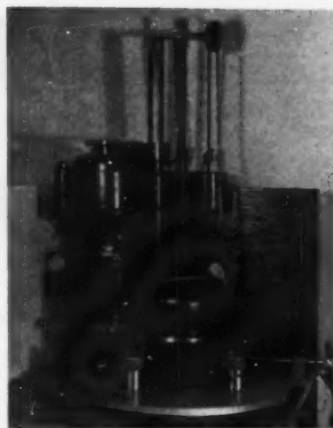
as outlined and explained by R. W. Abshire and A. A. Baudat of Sweden Freezer Mfg. Co., will be presented in a series of items which will appear in the "Here's How" columns of future issues.

### Serviceman Develops Own Hermetic Service Aids

With "an eye to the future and an ear to the ground", so to speak, M. P. Schlosser, refrigeration service engineer of East Port Chester, Conn., has developed two pieces of equipment especially designed to aid in the field servicing of hermetic or sealed condensing units.

Convinced that every refrigeration and air conditioning serviceman, if he is to succeed in this business in the years to come, will be forced to start working on hermetic units, as the number of these units in use steadily increases, Schlosser is offering drawings of his "home made" machines to the trade on a commercial basis.

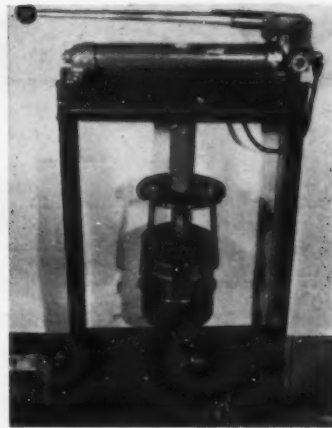
The first of these newly developed pieces of equipment, the Schlosser



**SEALED UNIT OPENER**, with two sides of guard removed, shows machine in the process of removing the weld from a Coldspot dome.

Unit Opener, was originally built from discarded parts at a cost of less than \$30, its maker claims. Cost of building the Schlosser Unit Press ran somewhat in excess of that figure.

The unit press is designed to open sealed units, either round or oval, regardless of whether middle,



**SEALED UNIT PRESS** is shown removing casting from shell. It also can be used to remove the stator from the casting, without damage.

top, or bottom welded. The average 1/8-hp unit can be opened by this machine in 20 to 30 minutes and, with the exception of bottom welded units, needs no attention.

The unit press removes the casting from the steel shell in seconds, instead of hours. This press also removes the stators without damage.

Your Customers'  
Best Buy. . .

IDEAL  
*Speed-Freeze*  
PRODUCTS

BEVERAGE COOLERS  
unexcelled storage capacity  
(56 cases 12 oz. - 8 ft. cooler!)

INSTANTANEOUS  
DIRECT DRAW  
DRAFT BEER COOLERS  
(with refrigerated faucets)

IDEAL

COOLER CORPORATION

2953 Easton Ave. St. Louis 8, Mo.

### JARENE CEMENT

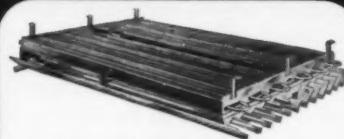


For Bonding Rubber Refrigerator  
**DOOR GASKETS**  
To Metal and Wood Surfaces

- Jarene Cement provides a fast, easy method for installing refrigerator door gaskets. Supplied in liquid form and easily applied with a brush.
- Holds permanently. In many cases a "pull test" shows the rubber will tear before the cement releases.
- Sold in handy 1/2 and 1 pint cans by wholesalers everywhere.

JARROW PRODUCTS  
420 N. LaSALLE ST., CHICAGO

*Buy Peerless*  
FOR PERFORMANCE



Flash Coolers  
Fin Coils  
Flash Pans

The Peerless Line of quality products is designed and constructed to meet every demand of modern commercial refrigeration. Our Flash Coolers, Fin Coils and Flash Cooler Pans have proved their superiority in performance under widely varying operating conditions. They are built with an eye to appearance, economy of space, and the utmost convenience in installation and servicing. Louvers fabricated from polished aluminum. Made in a wide variety of standardized sizes and styles—all of unchallenged Peerless quality. Write for Bulletin 49G today.

Peerless of America, Inc.

1501 No. Magnolia Avenue  
Chicago 22, Illinois, U.S.A.



## F. S. LANGSENKAMP HEADS JOBBING FIRM GRANDFATHER BEGAN

Frank S. Langsenkamp has been elected president and treasurer of the F. H. Langsenkamp Co. of Indianapolis. John T. Rocap was named secretary.

Langsenkamp represents the third generation of his family to serve as president of the firm, which was founded in 1868 by William Langsenkamp, his grandfather. His father, F. H. Langsenkamp, was president from 1908 until his death in 1953.

The Langsenkamp Co. is a wholesaler of refrigeration equipment and supplies. Langsenkamp is a past president of the Refrigeration Equipment Wholesalers Association.

## RECORD CROWDS SEE DALLAS DEVELOPMENT

A crowd of 25,000 turned out to view three \$12,950 model homes complete with Carrier's "Weathermaker" air conditioning system on the first day they were opened.

The homes, first of a planned 500 to be built in Plymouth Park, Dallas, Tex., include a cork inlaid 13 x 19' living room, a fully carpeted bedroom, knotty pine kitchen, 2 x 12" roof beams throughout, a car-



**INSPECTING** the year-round "Weathermaker" air conditioner in the Plymouth Park development which is featured in model homes are three of the men behind the operation. They are, left to right: Howard S. Lard, Bark Corp., Carrier distributor; Robert Brady, Mayflower Investment Co., builder; and A. W. Walker, Carrier Corp. area residential sales manager.

port, and lots averaging 65 x 120'.

Police on duty on opening day reported 516 automobiles per hour at the development. At 8 a.m., one

hour before the scheduled opening time, 15 cars were waiting to view these 3-bedroom houses. The project remained open for 12 hours on opening day and 2,800 persons visited the exhibit homes on the following day.

Five residences were sold on the first day and realtors reported 100 people were waiting the next day to discuss purchase of a home.

## AIR CONDITIONING BOOM BOOSTS WIRING SALES

At least a 50% increase in the Crescent Co.'s sale of wire this year to air-conditioning manufacturers was forecast today by John M. Sapinsley, president of the Pawtucket, R.I., wire and cable manufacturing firm. Sapinsley based his prediction on orders already received by his company for the heavy-duty wiring required for air-conditioning installations.

Different types of cords for air conditioning installation are manufactured by the Carol Co. Div. of Crescent.



**LA CROSSE**  
**KUBE KING**  
*Automatic*  
**ICE MACHINE**

Kube King, the leader in practical design, economical operation produces approx. 2,000 kubes every 24 hrs. . . . storage bin holds about 75 lbs. . . . uses only 5 qts. of water per freezing cycle.



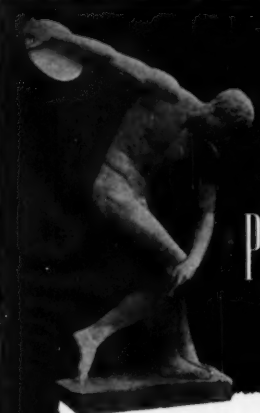
**CRYSTAL CLEAN  
CYLINDRICAL  
KUBES**  
WITHOUT HOLES!

**AVOID  
SERVICE  
HEADACHES**

**WRITE  
TODAY**

Removable stainless steel front panel, condensing unit compressor pulls out for quick servicing. No gadgets with modern Kube King engineers.


**LA CROSSE  
COOLER CO.** Factory & Gen'l. Offices:  
3002 Losey Blvd., La Crosse, Wis.  
Export Office: 80 Broad St., New York City. Cable: Eximport  
Circle No. 104 on Reader Service Card  
and **AIR CONDITIONING** • JUNE, 1954



**1ST IN  
PERFORMANCE**

**LILIE-HOFFMANN**  
*Cooling Towers, Inc.*  
**4239 DUNCAN AVE., ST. LOUIS, MO.**  
*Exclusive Builders of the World's  
Finest Cooling Towers for 56 Years*

Write for CS and CU Catalogs  
FOUNDER MEMBER OF C.T.I.



**GUARDING YOUR FINE REPUTATION**

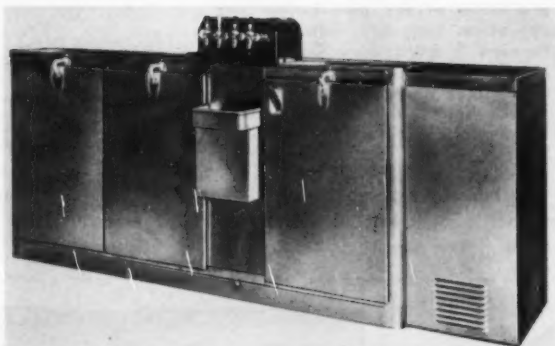
Circle No. 105 on Reader Service Card

## Up-To-Date Product Designing Meets Tougher Sales Competition



**AFTER** the "Kold Draft" line of beer dispensing equipment was restyled by a well-known industrial designer, this model presented this sleek modern appearance.

**BEFORE** the restyling, the same model had looked like this. The obvious improvement in the appearance of the new model over the old has proved a definite aid to saleability.



What the smaller manufacturer of refrigeration equipment can do to increase the saleability of his product in the face of increased competition is demonstrated by the steps that were taken by Uniflow Mfg. Co., Erie, Pa., in redesigning its products for the 1954 market.

Uniflow's principal products are "Kold Draft" beer dispensing equipment (a field in which the company is a national leader), "Lectrik-Ice" water coolers, walk-in coolers and freezers, beverage dispensing equipment, and water pumps and water softeners.

### Complications Appear

For a relatively small manufacturer, this represents a wide variety of products. A further (and significant) complication is that they are of such specialized nature that the volume in any one item is not large enough to allow extensive retooling or any great expenditure in die costs.

However, management at Uniflow

realized that, except for minor changes, their products had remained much the same — in both looks and function — for several years. They believed that with tougher competitive conditions almost certain in 1954, some redesign — to improve appearance, simplify operation, and reduce production costs — was called for. Doing this at a reasonable cost was the paramount problem.

### Start Ambitious Program

As the first step, the sales staff (with advice from district sales representatives) furnished the engineering staff with a list of the products to be redesigned. The program was ambitious — it included the "Klub" model Kold Draft, an under-bar beer dispensing system employing the company's circulating ice water principle, and the Kold Draft direct-draw beer dispensing system, both with the same exterior appointments but different interiors; the complete line of bev-

erage coolers; the "Kwik Server", a stainless steel tap box with ice cube maker using ice cube trays and a beverage cooler, all in one; the water cooler line, and the walk-in coolers and "J" model line of beer dispensers.

In tackling the No. 1 job — the revamping of the Kold Draft line — Uniflow enlisted the aid of Wilbur Henry Adams, well-known industrial designer. After some three months of meetings between the designer and the Uniflow sales and engineering departments, a final design was accepted.

### Make Mock-Up Model

A mock-up then was made (with many of the parts of wood) to check further on design from a sales standpoint, and to make certain that the company's production machinery could fabricate the parts without undue difficulty. After the design was set, orders were placed for sample parts, especially the new tap box (a major point in the Adams redesign suggestions) for which a new die was required, delivery taking six months.

Then another mock-up was made with the actual parts, and further "bugs" ironed out. After final o.k., production orders were placed and the new Kold Draft models began coming off the assembly lines. Total time from first planning meeting to first production model was about 18 months.

### Handled Coolers Differently

The new beverage cooler line was handled quite differently. Here the primary objective was to take out cost and make the product more competitive, so no industrial designer was retained. Instead Uniflow's sales and engineering departments, working as a team, developed a higher, deeper cooler with a sloping front design — more functional, better looking, and with greater capacity than previous models.

With the Kwik Server, there was a still different problem. This unit incorporated a conventional ice cube maker, and automatic ice cubers were increasing in popularity. However, here again the engineering department worked out an "inside job" of redesign that culminated in adding an automatic ice maker to the two proved popularity

points of the Kwik Server — a dry beverage compartment and a draft beer tap box. Exterior design of the unit was not altered.

The Lectrik-Ice water cooler line was not redesigned, but a new foot-pedal operation was added. Here foot-pedal control was achieved by a micro-switch and solenoid valve arrangement rather than the more conventional linkage arrangement. An all-aluminum walk-in cooler and freezer was added to established models in this particular product series; and an all-aluminum unit was added to the "J" series beer dispenser line.

Development of the various new products was carried on almost



simultaneously, with a different engineer assigned to each project. As might be expected, close coordination of sales, engineering, production and purchasing activities was necessary to achieve the final results. And, as practically a last-minute touch, a new color and texture of paint was introduced on some of the new products.

Rounding out its merchandising program for the year, Uniflow developed completely new sales literature on its entire products line, and introduced new models at a series of regional meetings throughout the country, these latter replacing the one "national" meeting formerly held. A complete new program of dealer and consumer advertising also was developed to introduce the new models to the 1954 markets.

## REMOVABLE TUBE EASES FREEZER CLEANING

An easily removed freezing tube facilitates cleaning the refrigeration surfaces of the "Star" models of continuous ice cream freezers manufactured by Cherry-Burrell Corp.

It was found that by cleaning the tubes of two 300 gallon per hour freezers every two weeks it was possible to increase back pressure needed for satisfactory freezing from 2 lbs. before cleaning to 12 lbs. after cleaning, enabling savings in power consumption.

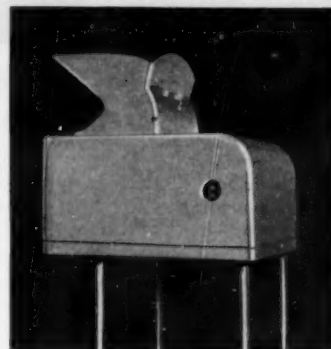
When a tube must be replaced only the actual freezing tube is replaced, not the entire cylinder assembly, which includes the ammonia jacket, insulation and outer shell.

## GRANTED A.M.A. SEAL

J. W. Alsdorf, president of the Cory Corp. has announced that the 1954 Fresh'nd-Aire "Electromagnetic" push-button automatic room air conditioners have earned the "Advertising Acceptance" emblem of the American Medical Association.

Circle No. 100 on Reader Service Card

## KWIK KUBE KRUSHER



Model B

### A Perfect Companion For Automatic Ice Makers

- Crushes Ice Cubes From Fine Particles to Walnut Size.
- Assures Sparkling Clean Ice.
- Simple and Safe to Operate.

For Specifications and Price List — write:

**GARY MFG. CO.**

916 E. Florence Ave., Los Angeles 1, Calif.

## ... "This is a 'must' item"

**WILDERMAN REFRIGERATION CO.**  
300 Dexter Avenue  
Seattle 9, Washington

April 15, 1954

Allin Manufacturing Co.  
1153 W. Grand Ave.  
Chicago 22, Illinois

Gentlemen:

It is with pleasure that we write this letter with reference to Allin Products.

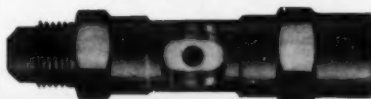
We have used Allin Liquid Eye Indicators for several years and are pleased to report that we have found them entirely satisfactory. We particularly like the outstanding features—straight through flow without liquid turbulence, compactness and versatility of the female to male connections. The wide selection of sizes and styles makes this truly a "must" item for every installation.

Yours very truly,  
**WILDERMAN REFRIGERATION CO.**  
J. Wilderman

## LIQUID EYE®

means:

- perfect refrigerant visibility.
- strate-thru flow.
- leak-proof—high safety factor.
- spring loaded gaskets.
- standard wrench flats.
- instant analysis of refrigerant condition.



Sold by leading Wholesalers. Send for the new Allin pocket-size booklet showing all Liquid Eye sizes and styles



**Allin MANUFACTURING COMPANY**

1153 W. Grand Ave.  
Chicago 22, Illinois

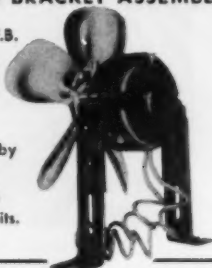


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# AN ADJUSTABLE REPLACEMENT FOR HERMETIC UNIT CONDENSER FAN ASSEMBLIES

## THE TRANSIRE MOTOR FAN BRACKET ASSEMBLY

The Transaire M.F.B. provides a single stock, all purpose solution to the replacement problem created by the great variety of condenser fans on all hermetic units.



- ADJUSTABLE TO WIDE VARIETY OF MEASUREMENTS—POSITIVE LOCKING AT ANY POSITION
- PERMITS USE OF ORIGINAL MOUNTING HOLES WITHOUT REFERENCE TO MODEL OR CATALOG NO.
- IMPELLER FAN AVAILABLE IN 4 DIFFERENT SIZES
- DUST PROOF MOTOR, RUBBER MOUNTED
- GUARANTEED FOR ONE YEAR

Write for details and prices (Give your wholesaler's name)

**PENN ELECTRIC MOTOR CO.**  
1825 WYKIE ST., PHILADELPHIA 30, PA.

Serving the refrigeration industry since 1928

## OVER 1000 ATTEND TENNEY'S "OPEN HOUSE"



**GUESTS OF TENNEY** Engineering Inc. at an "open house" formally opening its new plant in Union, N.J. were more than 1000 customers, suppliers, and friends. The new plant, to be devoted exclusively to the manufacture of environmental chambers used to simulate climatic conditions and for testing and manufacturing operations, represents the consolidation and enlargement of two former Newark plants into one single-story plant. Tenney's Baltimore plant, which manufactures "low side" refrigeration equipment—coils, unit coolers, ice makers, expansion valves, etc.—will not be affected by the move. New plant's 7-acre site allows for future expansion.

## WORTHINGTON NAMES OBERC DETROIT OUTLET

J. M. Oberc, Inc. has signed with Worthington Corp. as wholesale distributor for packaged commercial and residential air conditioning units in the Detroit area.

The firm will handle the equipment in 18 Michigan counties.

## FIBERGLAS HONORS 18 TOP BRANCH SALESMEN

Eighteen top branch salesmen of Owens-Corning Fiberglas Corp. have been honored for achievement of outstanding sales records during 1953 by appointment to the firm's Sales Builders' Club.

E. W. "Pat" Smith, vice-president, sales branch operations, said members of the club were selected on the basis of sales records, promotional effectiveness, development of outlets for new products, maximum utilization of their time and cooperation with others.

Earl F. Swaim, was chosen chairman and others are: D. W. Ladd; R. P. Mulligan; A. R. Kerivan; B. B. Young; C. E. Peck; J. D. Withers, and E. E. Howisey.

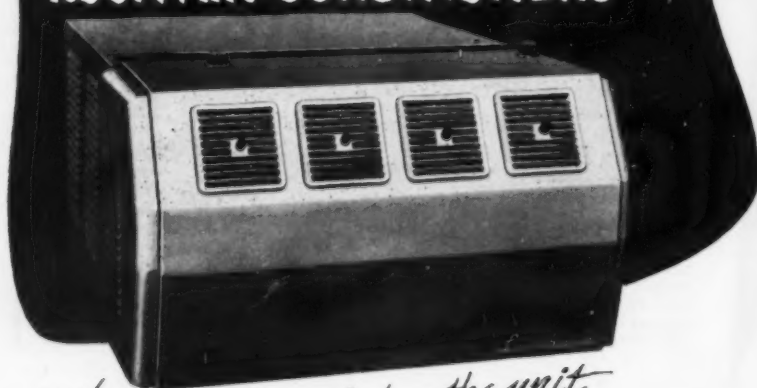
J. B. Moore; W. H. Van Lanen; C. L. Meteer; R. L. Boone; W. H. Smith; H. G. Ervin; W. C. Baker; K. I. Harvey; C. R. Pidock; and W. G. Hummel.

## 3 DISTRIBUTORS NAMED FOR SERVEL COOLING

Appointment of three distributors for Servel air conditioning equipment and room air conditioners has been announced by H. R. Nielsen, manager of the air conditioning division of Servel, Inc.

The newly appointed distributors are B. Segall Co., Shreveport, La.; Serv-Well Air Conditioning Supply Co., Parma, Ohio, and the Wilkins Co., Little Rock, Ark.

## The next BIG Appliance... ROOM AIR CONDITIONERS



and **Lombard** has the unit

### Priced Right!

Priced to become your air conditioning "leader."

### All Steel!

This is not a "cheapened" unit, but a real buy!

### High Capacity!

Highest BTU output per hour in standard units.

### Attractive!

Neat and trim... a modern beauty in good taste.

### Quality Plus!

From its GE fan unit to its complete thermostatic operation.

### Easy to Install!

Complete kit for easy installation in any window.

**DISTRIBUTORS-DEALERS** *Get the facts NOW-write*  
**LOMBARD MFG. CO., Youngstown, O.**

Circle No. 108 on Reader Service Card



## OPPORTUNITIES

(Classified Advertising)

Rates: for "Positions Wanted, \$4.50 minimum, limit 25 words. For all other classifications, \$8.00 minimum for 25 words or under, each additional word 20c. Boldface type or all capitals, \$10.00 minimum for 25 words or under, each additional word 25c.

### POSITIONS AVAILABLE

**AIR CONDITIONING SALES ENGINEER**—Leading national manufacturer of heating and air conditioning equipment needs a sales engineer to work with the Sales Manager, Air Conditioning Department. Applicant must meet following requirements: 1. Engineering Degree or equivalent; 2. Have prior engineering and sales experience with air conditioning equipment; 3. Able to handle wholesaler and dealer meetings; 4. Free to travel. Excellent opportunity for right man in progressive company. Man selected will supervise air conditioning sales in territory covering several states and will work with factory field representatives in those areas. Salary open. Give detailed summary in first letter. All replies confidential. Write to Box 6154, COMMERCIAL REFRIGERATION & AIR CONDITIONING.

**FACTORY REPRESENTATIVES.** To handle most complete line in the industry: Commercial refrigerators, freezers, display cases, walk-ins. Promotionally-priced for volume sales. Some excellent territories available. If you have a proven record of good sales performance, write to President, FOGEL REFRIGERATOR CO., Phila. 37, Pennsylvania.

**BUY FROM YOUR  
REFRIGERATION WHOLESALE**

## GUSTIN-BACON OFFERS NEW MOLDED GLASS FIBER

Glass fiber insulation, molded to fit regular and irregular surfaces and ready to apply in assemblies with all the speed and ease of machined parts, is obtainable from Gustin-Bacon Mfg. Co.

These molded-to-shape parts, comprised of resilient, plastic bonded Ultrafine glass fiber insulation can be molded in any size up to 8 x 10' in densities varying from 2 to 10 lbs. per cu.ft. and thicknesses varying from 1/8" up.

Also manufactured for the original equipment market is die-cut glass fiber insulation with or without facing material attached, and Snap-On pipe insulation, a one piece molded pipe insulation in pipe sizes from 2" to 24".

## SERVEL NAMES LEE CO. COOLING EQUIP. OUTLET

B. J. Lee Co. has been named Servel air conditioning distributors for western Tennessee, northern Mississippi, northeastern Arkansas and three counties in Missouri.

B. J. Lee Co. is owned and operated by Boyd J. Lee. Troy C. Bearden is chief engineer of the company, and Robert E. Turner is sales manager.

## AIRTEMP NAMES NEW MICHIGAN OUTLET

Davison Distributing Co., Inc., Detroit, has been named wholesale distributor of Chrysler Airtemp air conditioning and heating products in eastern Michigan, P. J. Dalton, Chrysler Airtemp regional sales manager, announced.

The company will distribute Chrysler Airtemp "packaged" and residential air conditioners, room air conditioners and the entire Airtemp line of warm air furnaces, steam boilers and conversion burners to retail dealers and contractors.

An engineering service, covering all phases of heating and air conditioning, and a complete parts depot will be established for dealers.

The modernization of the company's present quarters will begin immediately, Jack Gorelick, Davison president, stated. New showrooms, executive offices and warehouse space will be added.

In addition to Gorelick, Davison Distributing's new officers include: Dave Muskovitz, secretary-treasurer, and Nicholas Greenstein and Jerome Pershin, vice-presidents.

## NO MORE FREEZE-UPS of expansion valves or capillary tubes!

**ICE-X** works like magic  
SERVICEMEN SAY: "ICE-X IS GREAT!"



When ice forms in expansion valves or capillary tubes, ICE-X is a sure remedy . . . ICE-X is non-corrosive—harmless to parts. An ice-eliminator that can't be beat for Freon, Carrene, or Methyl Chloride systems . . . Order from your jobber. If no jobber, order direct.



Service doesn't falter  
when it comes from Harry Alter

Jobbers: Ask for special offer!

**The HARRY ALTER CO.**

Exclusive  
ICE-X  
Distributor

1728 S. Michigan Ave. Chicago 16, Illinois

Circle No. 110 on Reader Service Card  
and AIR CONDITIONING • JUNE, 1954

## AN Ideal Location

## THE Parkway HOTEL

Overlooking beautiful Lincoln Park. 10 minutes to Chicago Loop. Public transportation few steps from door. Home of The Chat Room, unique dining and cocktail lounge. Coffee Shop serving excellent meals. Complete hotel service.



2100 Lincoln Park West

**Chicago**

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# valves solve all installation problems more profitably!

This popular A-P trio takes the fuss and cuss out of OEM or field valve connection problems. Time and work saved boosts profits wherever applied! You get: (1) choice of popular connections, (2) interchangeable distributors, (3) connections "out-in-the-open" for fast hookup, (4) dependable liquid charge that permits mounting valve in *any* position.

## SOLDER

### ALL NEW Model 217—specially designed for installation on original equipment

Covers complete range of suction temperatures from  $-40^{\circ}\text{F}$ .

- Internal or external equalizers ( $\frac{1}{4}$ " sweat-type) available for all sizes. Adjustable or factory-set super-heat.
- Capacity ranges: 2 to 12.5 tons F12; 3.5 to 19 tons F22.
- Four inlet sizes:  $\frac{3}{8}$ ",  $\frac{1}{2}$ ",  $\frac{5}{8}$ ",  $\frac{7}{8}$ " O.D., solder; three outlet sizes:  $\frac{3}{8}$ ",  $\frac{7}{8}$ ",  $1\frac{1}{8}$ " O.D. solder.

## FLARE

### Model 205c—last word in valve versatility!

For residential air conditioning, commercial and low temperature applications.

- Maintains constant operating superheat over entire range. Has 60" capillary tube.
- $\frac{3}{8}$ " x  $\frac{1}{4}$ " male flare inlet.
- Capacities: 2 and 3-ton F12; 3 and 5-ton F22 and Methyl Chloride.

## FLANGE

### Model 216C—Best buy for general field replacement

A natural for all types of larger tonnage applications — Freon 12 and Freon 22.

- Accurately meters refrigerant either to single-pass or multiple-pass coils.
- Sweat or flange-type connections.
- Adjustable superheat. Capacity:  $3\frac{1}{2}$  to 11-tons F12. From 5.6 to 16.5-tons F22.
- Varied connection sizes available.

WHATEVER THE APPLICATION — A-P valves save money and time



**DEPENDABLE Controls**

for Air • Liquids • Gases • Refrigerants

## A-P CONTROLS CORPORATION

2486 N. 32nd Street, Milwaukee 45, Wisconsin  
In Canada: A-P Controls Corp., Ltd., Cooksville, Ontario

Circle No. 2 on Reader Service Card

# Franchise Circulation GETS A NEW PARTNER:

## Action Audit

Now for the first time, the **WHOLE** story of a magazine for Advertisers

### Franchise Circulation

The problem confronting every advertiser is to have his sales message read by the people upon whom his salesmen is calling. To attain that is the perfect integration of advertising to sales. Industrial advertising does a much more effective job backing up salesmen than it does to generate its own direct sales.

The Industrial Publishing Company has developed since 1932 what is probably the most effective means for reaching a sales market that has been devised in industrial advertising.

Wholesale distributors in the fields served by The Industrial Publishing Company's magazines, subscribe to the magazines for their best customers and prospective customers. They pay monthly for each subscription, and the people for whom they subscribe are the active buyers called on daily by their own salesmen. The lists are corrected monthly, assuring that the circulation remains sensitive to the personnel turnover in business and industry.

### *How do you know we reach the right man for you?*

Through **ACTION AUDIT**. This is the measuring stick which analyzes and particularizes the quantity and the **QUALITY** of the readers of your and your competitor's advertisements. No other method for such determination has heretofore been devised.

### *What is Action Audit?*

The Industrial Publishing Company asked advertising buyers across the country what they needed to know in choosing publications.

All of the answers fell generally into the groups of "Who reads it?", "How does it reach him?", "What is the degree of the readers' interest?" and "How can the buyer certainly know these things?"

The editorial content of a book is tangible; quantitative circulation measurement has become almost standard practice; surveying has reached higher levels of value to the advertising practitioner. But there are still areas which need greater light.

"Action Audit" is the means of ascertaining and disclosing to the buyer, what happens when a magazine goes to the right man, in the right place, at the right time.

### *The beginning of a measurement*

The Industrial Publishing Company's magazines solicit inquiries for the advertiser by means of a card which the reader may send for further information or action. They are sales leads but they are much more. **THEY ARE AN INDEX OF WHO IS READING; OF WHAT HE IS READING.**

### *Why is Action Audit useful to an advertiser?*

Publishers' presentations have historically been a "putting-of-the-best-foot-forward". A dozen points about a book have been taken out of context and placed in a favorable light before potential buyers. An advertising buyer about to make a decision has had a hodge-podge of claims and accusations upon which to form a judgement . . . with a suspicion that he also had missing parts.

Action Audit is a presentation by a publisher of the **TOTAL STORY OF HIS BOOK**, without deletion or expansion of fact. The advertising buyer sees the magazine exposed in all its nakedness and is able to make a fair estimate, with which he feels secure. He can defend his choice in his own mind and to other people. That is why Action Audit is essentially useful, because it is the **WHOLE** story.

### **ACTION AUDIT:**

- Gives you **FACT** about reader traffic.
- Demonstrates the news value of business paper advertising.
- Takes circulation and market out of statistics and shows you **PEOPLE . . . people in action . . . people interested in what you sell.**
- Reflects interest in types of sales appeals.
- Indicates new pools of buyers every month.
- Shows publisher's sensitivity to reader interest and purchasing power.
- High-lights need for rapid, efficient inquiry handling for sales effectiveness.

## **COMMERCIAL REFRIGERATION & AIR CONDITIONING**

1240 ONTARIO STREET

CLEVELAND 13, OHIO